POOR LEGIBILITY

ONE OR MORE PAGES IN THIS DOCUMENT ARE DIFFICULT TO READ
DUE TO THE QUALITY OF THE ORIGINAL

I. FACILITY IDENTIFICATION

1. EPA Identification number

   EPA Number CAD042245001

   A Part A and Part B was originally submitted to the Department of Health Services and Environmental Protection Agency Region IX in 1980. Since then there have been submittals of amended and revised Part A's and Part B's documents to these respective agencies. A copy of the most recent modified Part A is included in the Appendix L of this document.

2. Treatment Facility Name

   Omega Chemical Corporation and Omega Recovery Services which is a wholly owned subsidiary of Omega Chemical Corporation.

3. Type of facility

   This facility provides off site treatment of commerical and industrial wastes both liquids and solids. This treatment is primarily accompolished by the recycling of chemicals and hazardous waste through the use of specialized treatment which includes distillation, wiped film evaporation, physical separation, dewatering, filtering, and chemical separation. The products from this recycling process are sold back to the original users and other consumers of these products. The wastes from these treatment processes is then manifested to off-site licensed facilites for use as supplemental fuels, for destructive incineration, or for disposal by other approved and licensed means.

   This facility also serves as a transfer station., providing storage and consolidation for containerized and bulk wastes which are not amenable to treatment at the facility.

   Omega has developed a five year program to improve the facility which would provide additional treatment capacity as well as new methods of treatment technologies for various forms of hazardous and non hazardous wastes. The proposed waste treatment systems are shown in the various appropriate sections of this Part B Operation Plan Section VI.

4. Facility Mailing Address

   Omega Chemical Corporation
   P.O. Box 152
   Whittier, CA 90608

5. Facility Location

   Omega Chemical Corporation
   12504 E. Whittier Blvd.
   Whittier, CA 90602

6. Phone Number

   213 698 0991

7. Standard Industrial Classification

   4953 Recycled Solvients and Hazardous Wastes
   5161 Wholesale Distribution

B Operation Information

1. Legal Owner
   Omega Chemical Corporation

2. Mailing Address
   P.O. Box 152
   Whittier, CA 90608

3. Telephone
   (213) 698-0991

C. Owner of land and building
   Omega Chemical Corporation

2. Mailing Address
   P.O. Box 152
   Whittier, CA 90608

3. Phone Number
   213 698 0991

D Contact Individual

1. Dennis R. O'Meara

2. Title: President

3. Phone: (213)-698-0991

4. Work Address
   12504 E. Whittier Blvd.
   Whittier , Calif. 90602

E Preparation of Operation Plan

1. Firm: Omega Chemical Corporation

2. Individual: Dennis R. O'Meara

3. Title: President

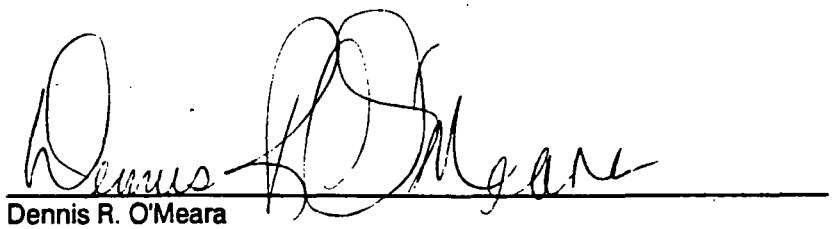
4. Phone: (213) 698-0991

F. Date of DHS Instructions, October 1985

G. Certification of Preparation

"I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

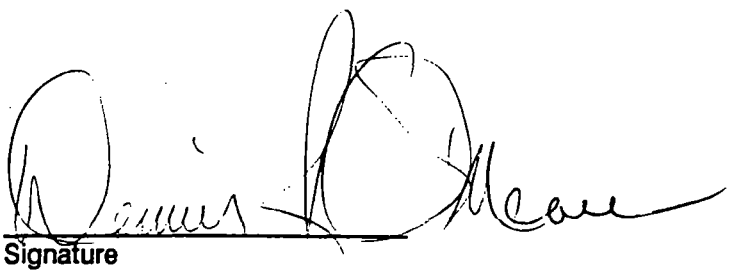
H. Omega Chemical Corporation



Dennis R. O'Meara
President
October 29, 1990

I. Waste Minimization Certification

I hereby certify under penalty of law that personnel under my direction and supervision at this facility are undertaking specific steps in accordance with a program in place to minimize the amount and toxicity of hazardous wastes generated at this facility to a degree economically praticable and that the method utilized for the treatment, storage, or disposal of hazardous wastes is the practicable method currently available to this facility which minimizes the present and future threat to human health and the environment. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment for flagrant falsifications.



Signature
Dennis R. O'Meara
Name
President
Title
October 29, 1990
Date

II. MAPS OF FACILITY AND SURROUNDINGS

A Series of Maps and Drawings are shown to provide the required informaton for this section of the Operation Plan

A. General Topographic Map

Area extending one mile beyond property boundaries of facility is shown on Figure II-1.

B. Map of the Whittier City Planning Department (Figure II-2)

This shows the land use designations for the site and surrounding property. An area with 2000 feet radius is drawn on the map. (Figure II-2). This site is designated as M,heavy manufacturing which is consistent with the both current and proposed operations.

There are no intakes or discharge structure on the facility except for sanitary sewer in the building.

There are no wells for underground injection of fluids.

C. Map of California Department of the Interior Geological Survey - Water Resources Division. (Figure II-3)

This map shows wells and springs in the area surrounding the Whittier facility site. An area circumscribed by a circle with a radius of 2000 feet is shown with the site in the center. There are no wells, springs, surface water bodies, drinking water wells, aqueducts or public water supply systems on site or within the described area.

Water Bodies and Surface Water that is closest to the facility is the Whittier Narrows. This is located over four miles to the northwest of the site.

D. Detailed map having the following: this is taken from the Los Angeles County Assessor's Map Book (Figure II-4):

1. Map Layout Showing
    - (a) Scale (Shown on Map)
    - (b) North Arrow
    - (c) Date Map Completed (January 10, 1990)
    - (d) Facility plus surroundings extending 2000 feet beyond the perimeter of facility.
    - (e) Location of facility
        - (1) Latitude 04/03/30
        - (2) Longitude 37/59/05
        - (3) Township
        - (4) Range
        - (5) Sections
        - (6) Principal Meridian
        - (7) Assessor's Parcel Identification Numbers
            - Map Book 8170 Page 029 Parcel 004
            - Map Book 8170 Page 029 Parcel 005
            - Map Book 8170 Page 029 Parcel 015
            - Map Book 8170 Page 029 Parcel 016

E. Drawings of Current facility showing present operations and proposed. Figure II-5,6, and 7 depict the existing and proposed facility configuration respectively. Full Scale Maps are included in the Appendix A. The following features are shown on one or both of these figures.

Scale
North Arrow
Date the Map was completed
Locations of the permanent internal roads
Security fencing and access points (see also Contingency Plan; Appendix G)
Waste storage and treatment tank identities and locations
Container storage areas
Waste treatment system locations
Location of each facility used for hazardous waste.
(a) Treatment
(b) Storage
Waste loading and unloading areas
Secondary containment structures
Buffer zones around tanks and containers holding ignitable wastes
Support buildings (e.g., office buildings, laboratory, control room, maintenance building, etc.)
Process sewage system, sewer lines and utility easements.
Surface drainage in waste management areas presently is contained within secondary containment structures

F. Land Characteristics

(a) Existing contours and elevations are shown on the U.S.G.S. map Figure II-1

(b) Proposed final contours: No significant changes to the existing contours are proposed.

(c) Whittier no longer has 100 year flood plain map. No certification that facility is not subject to a 100 year flood plain unundation has not been provided by the US Army Corps of Engineers. Federal Flood Insurance Rate Map has not been prepared for the City of Whittier. Due to the fact that it has no flood plain. This has been verified at Los Angeles County Flood Control District. The site is located in a HUD designated Flood Zone "C", In which there is no danger from flooding, an area of minimal flooding after a 500 year flood. A letter from the Los Angeles County Flood Control District is attached (Figure II-8)

(d) There are no surface waters see Map Figure II-3 also verified in USGS topographic map Figure II-1.

(e) Prevailing wind speed and direction. This is provided by a Wind Rose see Figure II-9 .

(f) Land uses and zoning. This is provided in Whittier Land Use see figure II-2. It is M-2 Zone- Heavy Manufacturing.

G Facility Characteristics

(a) Legal Boundaries see Figure II-4

(b) Location of permanent access roads see Figure II-4 and Figure II-10
The frontage road along Whittier Boulevard and southern access on Putnam Street are a concrete paved, two-laned, two-way, throughfares with concrete curbs, gutters, and parallel parking on both sides. Whittier Boulevard proper is a divided four-lane, two-way, asphalt paved roadway with concrete curbs and gutters.

(c) There are no internal roads

(d) Traffic associated with facility on and off site

Traffic Flow Plan

All access to the Project site will be carefully controlled. Security fences will restrict access to all areas. Visitor access will only be through the office. Entering trucks will first log-in and identify themselves and present the appropriate manifest and documents to the plant supervisor.

Access for trucks will be directed to the Putnam Street access as the preferred approach to the facility.

Approximately six trucks per day, or about one per every two hours, may be processed; therefore, traffic is not expected to be a problem.

The trucks will proceed to the truck unloading points where the material will be discharged. After which they will exit through the security gate .

(1) Traffic Pattern
Current traffic flow pattern is shown onFigure II-10.
Proposed traffic flow pattern is shown on Figure II-10

(2) Control Methods
All incoming waste vehicles will be directed by Omega employees to an appropriate loading or unloading area.

(3) Location of control signals
A traffic signal is located at Whittier and Washington Boulevard interchanges. There are stops signs at the Putnam and Washington Blvd. intersection.

(4) Type of surface and/or bearing capacity of roads.
The surface streets in the area are deesigned for heavy truck traffic, they are designed to handle 80,000 pound commerical vehicles.

(e) Security fencing

(1) Location

The entire Project site is surrounded by 6 foot minimum security fences. All gates to the process areas, requiring operator clearance for access, will normally be closed. In the proposed expansion this security fencing will be continued. All appropriate signs are attached to the access displaying that this is a hazardous waste facility.See Figure II-5, II-6.

(2) Type

The facility has a cyclone wire type fence and concrete block walls surrounding the entire facility. The facility operates with supervision 24 hours per day, 7 days a week. All gates are closed. They are opened by Omega personnel for movement of vehicles only.

(f) Access Control

(1) Location
Access locations are the various gates and building doors shown in (Figure II-5,II-6)

(2) Type

To the administration building access from the front is through a door. This is occupied by office personnel during day business hours. It is locked during non office hours. The gate to the operating areas is closed and supervised during operating hours. We operate 24 hours a day 7 days a week. At all other times, the facility is locked. In the office all visitors must register and sign in our guest book.

(g) Names, locations, and dimensions of past, present of the following:

(1) Treatment facilities

Present

FAT JACK - Treatment Unit T-1
Location: (Figure II-7)
Dimension: It is 36 feet wiped film processor manufactured 1979 by Pfuadler. It is all stainless steel.

KIRK- Treatment Unit T-2
Location: (Figure II-7)
Dimension: 20 foot by 1 foot distillation column. It is all stainless steel.

PAUL- Treatment Unit T-3
Location: (Figure II-7)
Dimension: It is 350 Gallon pressure vessel with 30 foot by 8 inches distillation column. It is all stainless steel.

CRAIG- Treatment Unit T-4
Location: (Figure II-7)
Dimension:It is 500 Gallon pressure vessel with 20 foot by 8 inch diameter distillation column. It is all stainless steel.

NEAL- Treatment Unit T-5
Location: (Figure II-7)
Dimension: It is 50 Gallon glass lined reactor. It is manufactured by Pfuadler Corporation.

JAKE- Treatment Unit T-6
Location: (Figure II-7)
Dimension:It is 13.5 feet wiped film processor manufactured 1983 by Pfuadler. It is all stainless steel.

MORK- Treatment Unit T-7
Location (Figure II-7)
Dimension:It is 1000 Gallon pressure vessel with 20 feet by 1 foot diameter distillation column. It is all stainless steel.

PETE- Treatment Unit T-13
Location: (Figure II-7)
Dimension:It is 2500 Gallon Pressure vessel with 20 foot by 1 foot distillation column. It is also stainless steel.

LIQUID EXTRACTION - Treatment Unit T-9
Location: (Figure II-7)
Dimension: This unit can perform liquid liquid extraction where two different liquids can exchange both physical and chemical properties through the liquid liquid extraction method.

SOLIDS GRINDING UNIT - Treatment Unit T-16
Location (Figure II-7)
Dimension:This unit grinds compatible solid waste to a pumpable liquid form. When in a liquid form it can be treated by other treatment units or be shipped off site to an another treatment facility in its liquid state.

PATRICK - Treatment Unit T-10
Location (Figure II-7)
Dimension:It is a 36 feet wiped film processor. It is all stainless steel.

Future
KIRK II - Treatment Unit T-8
Location (Figure II-7)
Dimension: 20 foot by 1 foot distillation column. It is all stainless steel.

CRAIG II - Treatment Unit T-11
Location (Figure II-7)
Dimension:It is 500 Gallon pressure vessel with 20 foot by 8 inch diameter distillation column. It is all stainless steel.

NEUTRALIZATION AND PRECIPITATION UNIT - Treatment Unit T-15
Location: (Figure II-7)
Dimension: It is oxidation reduction unit to reduce waste water organics through ultraviolet light and ozone and/or hydrogen peroxide.

PACT UNIT - Treatment Unit T-17
Location (Figure II-7)
Dimension:It is biological waste water unit to reduce all organics to carbon dioxide and water.

Treatment units - There are several tanks and processing equipment that are used as neutralization or filtering systems.
Location:
Dimension:

(2) Storage Facilities

These are all stainless steel tanks. They are all identified in Figure II-11
Present
STORAGE #A- 10000 Gallon
STORAGE #B- 10000 Gallon
STORAGE #C- 10000 Gallon
STORAGE #D- 10000 Gallon
STORAGE #E- 10000 Gallon
STORAGE #F- 10000 Gallon
Location:Figure II-11
Dimension: See Appendix D

Present
HEIDI - 5500 Gallon
JENNY - 3500 Gallon
SANDEE - 2000 Gallon
ELAINE - 2000 Gallon
CARRIE - 2000 Gallon
CONNIE - 2000 Gallon
AMY - 650 Gallon
SUSAN - 500 Gallon
PEGGY - 750 Gallon
SHEILA - 1300 Gallon
CINDY - 1200 Gallon
LINDA - 500 Gallon
DIANE - 500 Gallon
LOUDY - 500 Gallon
RAQUEL - 750 Gallon
FARRAH - 750 Gallon
Location:Figure II-11
Dimension: See Appendix D

The Following are Carbon Steel Tanks
STORAGE #1- 5,000 Gallon
STORAGE #2- 5,000 Gallon
STORAGE #3- 5,000 Gallon
STORAGE #4- 5,000 Gallon
STORAGE #5- 5,000 Gallon
Location:Figure II-11
Dimension: See Appendix D

The Following are Stainless Steel Tanks for Various Organic Type Waste
Future
STORAGE #7- 10000 Gallon
STORAGE #8- 10000 Gallon
STORAGE #9- 10000 Gallon
STORAGE #10- 10000 Gallon
STORAGE #11- 10000 Gallon
STORAGE #12- 10000 Gallon
STORAGE #13- 10000 Gallon
STORAGE #14- 10000 Gallon
STORAGE #15- 10000 Gallon
STORAGE #16- 10000 Gallon
STORAGE #17- 10000 Gallon
STORAGE #18- 10000 Gallon
STORAGE #19- 10000 Gallon
Location:Figure II-11
Dimension: See Appendix D

The Following are Pressure Tanks for the Storage of CFC's
CFC 1 - 5500 Gallon
CFC 2 - 5500 Gallon
CFC 3 - 5500 Gallon
CFC 4 - 5500 Gallon
Location:Figure II-11
Dimension: See Appendix D

The Following are Stainless Steel Tanks for Intermediate Processing of Waste Materials
Future
STORAGE #20- 750 Gallon
STORAGE #21- 750 Gallon
STORAGE #22- 750 Gallon
STORAGE #23- 750 Gallon
STORAGE #24- 500 Gallon
STORAGE #25- 500 Gallon
STORAGE #26- 500 Gallon
PROCESS 1 - 1000 Gallon
PROCESS 2 - 1500 Gallon
PROCESS 3 - 1500 Gallon
PROCESS 4 - 1500 Gallon
PROCESS 5 - 1500 Gallon
Location:Figure II-11
Dimension: See Appendix D

The following are plastic tanks for waste water treatment. They are all identified in Figure II-11. They are all above ground and diked.

Future
STORAGE TANK # 27 -8000 GALLON
STORAGE TANK # 28 -8000 GALLON
STORAGE TANK # 29 -8000 GALLON
STORAGE TANK # 30- 8000 GALLON
STORAGE TANK # 31- 8000 GALLON
STORAGE TANK # 32- 8000 GALLON
STORAGE TANK # 33- 8000 GALLON
STORAGE TANK # 34- 8000 GALLON
STORAGE TANK # 35- 8000 GALLON
STORAGE TANK # 36- 8000 GALLON
Location:Figure II-11
Dimension: See Appendix D

(3) Loading and unloading facilities associated with waste storage or treatment

These areas are located on the map Figure II-12. They are located at the closest areas to the entrances to the facility.There will be no unloading of waste material until the waste has been cleared and approved as acceptable for Omega to treat and handle. Until that time all trucks or vehicles containing waste will remain in the quarantine area (see Figure II-5,II-6).

After approval the waste material will either be pumped to an appropriate storage tank in the tank farm area if it is liquid. If it is a drum or container type that has waste substance it will be removed from the truck by either a forklift or liftgate and then palletized for storage in the drum storage area (see Figure II-5,II-6)

All of our trucks have lift gates for the loading and unloading of their cargoes. Omega will have forklifts with special attachments for handling material in drums.

In addition there will be air operated diaphragm pumps. These pumps can be used to evacuate material from tanks, tankers and drums. This method reduces the handling required for emptying containers plus the additional benefit of reducing air emissions from the transferring of waste material.

(4) Specific locations and identity of containers or tanks holding ignitable and incompatible wastes, are identified in Figure II-13. They are further identified in Section VI.

Reactive Wastes will not be received at the facility.

All the storage tanks that are designed to hold ignitable wastes shall be compatible with these types of wastes. These tanks are all located within a diked area and meet the National Fire Protections Code for materials of construction and location within a proper area. Storage of containers holding hazardous waste are identified in Figure II-5,II-6.

All storage tanks designeated for corrosive type wastes will be compatible with these types of wastes. These tanks are located within a diked area and meet appropriate construction standards. They are identified in Figure II-11.

Containerized incompatible wastes will be segregated in accordance with waste types and compatibilities in their appropriate storage areas. See Section VI Containers

(5) Equipment and container cleaning areas are identified in Figure II-5,II-6.

All equipment will be cleaned in their various operating locations. These locations are designed with diked perimeters to contain any spills or loss of waste material. The location of the equipment is identified in Figure II-7. The maintenance shop area is also a controlled area to avoid any contamination from the release of waste material.

(6) Building - (Figure II-15)

There are four buildings
Building A is an administrative and laboratory facility.
Building B is warehouse and treatment.
Building C is boilers and cogeneration.
Building D is warehouse and office..

(7) Containment Structures See Figure II-16

DRAINAGE

With the facility handling materials which could be potentially classified as a hazardous waste, the issue of handling surface water drainage is an area of concern, since even though the probability is remote, there exists the potential for spills of material, particularly while transferring incoming materials from trucks or railroad cars. Storage areas, particularly where drums are stored, also have a high spill potential.

Even though the water table is not close to the surface, the decision was made to cover all operating and storage areas with an impermeable coating. The traditional methods of preventing the migration of hazardous wastes in soils is to provide a layer of impermeable material such as bentonite covered with a plastic liner such as polyvinyl chloride, with provision for sampling tubes, etc. to check on the physical integrity of the barrier. This method is believed not to be suitable for this site in that many of the solvents handled, if placed in contact with materials such as bentonite make the material swell, thus reducing its physical integrity. Others of the solvents can dissolve the binders used to make polyvinyl chloride films, allowing them to disintegrate and lose physical integrity. Thus the traditional methods of controlling the in soil migration of hazardous wastes are potentially vulnerable to attack by the materials they are attempting to contain.

It is believed that this issue can best be addressed by the adoption of three key physical design criteria. These are:

a. All piping and equipment handling or storing potential hazardous waste material must be placed above ground, and clearly visible for physical inspection at all times.

b. All areas where the potential for spills exist must be covered by a high strength impermeable coating.

c. Provision must be made for all areas where potentially hazardous materials are, or can be, present, to be drained in a manner such that any water falling on these areas will be

directed to a containment area where the water can be treated or neutralized before it is discharged into a sewer or allowed to follow natural drainage courses.

To contain any rainwater which would fall on the site, provision will be made for all rain which falls on operating and storage areas to be drained to the tank storage areas. All of the tanks in these areas will be elevated on legs or on structures above the surface so that they can continually be monitored for possible leakage and will be designed so that they will be restrained against flotation forces if they are empty.

Rainwater which falls on the roofs of the processing buildings and warehouse office will be collected and passed directly to the irrigation system . All other water, except that falling on planted areas and retained there, will be captured and impounded. The holding sump is designed to contain 9 inches of rain falling on the facility. The maximum amount of rainfall in 24 hours recorded in this area of Los Angeles County during the 41 year period of record, 1940 to 1981. Extrapolation to a 100 year period suggests a design rainfall of 6.4" in a 24 hour period.

Because of the large dilution of potential materials spilled on the surface by rainfall, the use of conventional materials can be considered for the rainfall containment and disposal systems.

Provision for a structure similar to an API separator will be made to separate out the rocks and floating materials, such as leaves or oils, from the rainwater. There are two treatment options. The water can either be passed through one of the distillation columns, producing distilled water, and a residue to be disposed of. The disposal system should be capable of handling 1.5\inches per day of rainfall (75\gpm) making the capacity of the holding basin equivalent to a 10.5\inch rainfall which should provide an adequate margin of safety.

Dikes are in place around the entire facility. This is to contain all rain run off and any spills. In addition, there is another dike around the major storage tanks.

(8) Buffer Zones

There are the required spaces around all storage tanks and equipment as defined in the National Fire Codes.

(9) Other structures are depicted and defined in (Figure II-5,II-6).

(a) Locations and types of:

1. Environmental monitoring stations -
   The sewer discharge is monitored by the Los Angeles County Sanitation District.
   The emissions to the air are monitored by the South Coast Air Quality Mangement District.
   All tanks and processing systems are above ground on diked impermeable concrete containment system. Since this facility is not a disposal facility but a recycling and treatment facility no other environmental monitoring equipment is present. .

2. Facilities for controlling surface drainage. The facility is diked. All drainage is channeled to a holding area. This has a sump for pumping the rain or spills to an appropriate holding tank.

3. Injection and with drawal wells
   There are no injection or withdrawal well on the facility or associated with the facility.

(b) Location through facility of

1.. Power Lines.
There are power lines that bisect the facility. They are shown on the facility map in Figure II-17

2. Pipelines - None

3. Easements - None

C. Provide the following information associated with the maps.

1. The legal description of the property is
   Legal Description
   Lots 3,4,15, & 16 of Tract 13486, City of Whittier, Los Angeles County, California
   This property is owned and controlled by Omega Chemical Corp. copy of the tax records are shown in Figure II-18 . It is located at 12504 E.Whittier Blvd., Whittier, California 90602, 200 feet in width and 440 feet in depth.

2. Estimated volume of traffic

   (a) There are an average of 8 trucks coming and leaving the facility per working day.

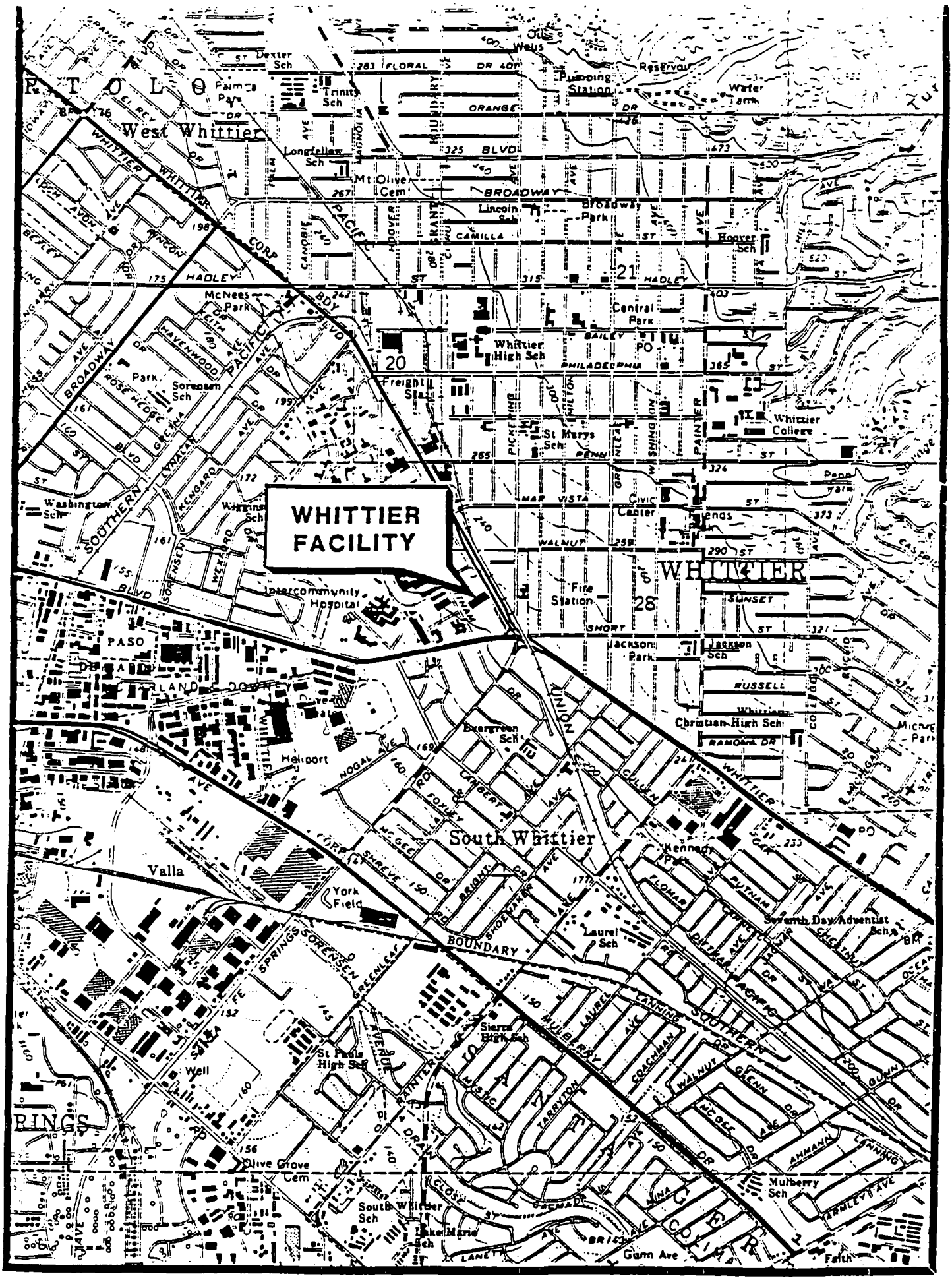
   (b) These trucks range from pick up to 8000 gallon tank trucks.

3. Characteristics of permanent access roads.

   (a) Concrete paved

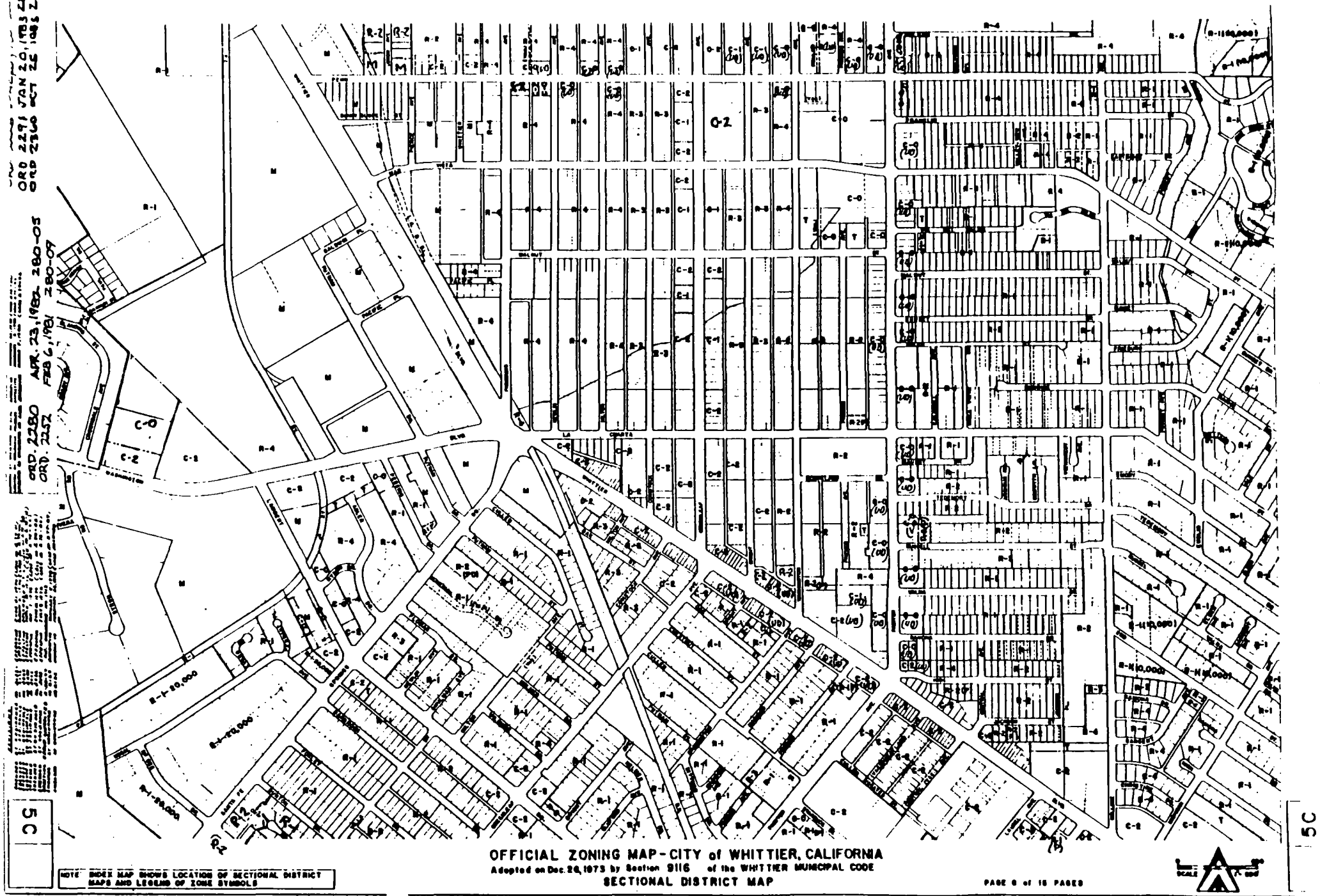
   (b) Maximum California load bearing capacity 80,000 pounds per vehicle.

4. Existing facilities - Photograph essay of current facility See Figure II-19.



Site Location and Topographic Map
Omega Chemical Company
Whittier, CA

Source: Whittier, CA
USGS 7.5 Minute Quadrangles
1 inch = 2000 feet



OFFICIAL ZONING MAP - CITY of WHITTIER, CALIFORNIA

Adopted on Dec. 26, 1973 by Section 9116 of the WHITTIER MUNICIPAL CODE

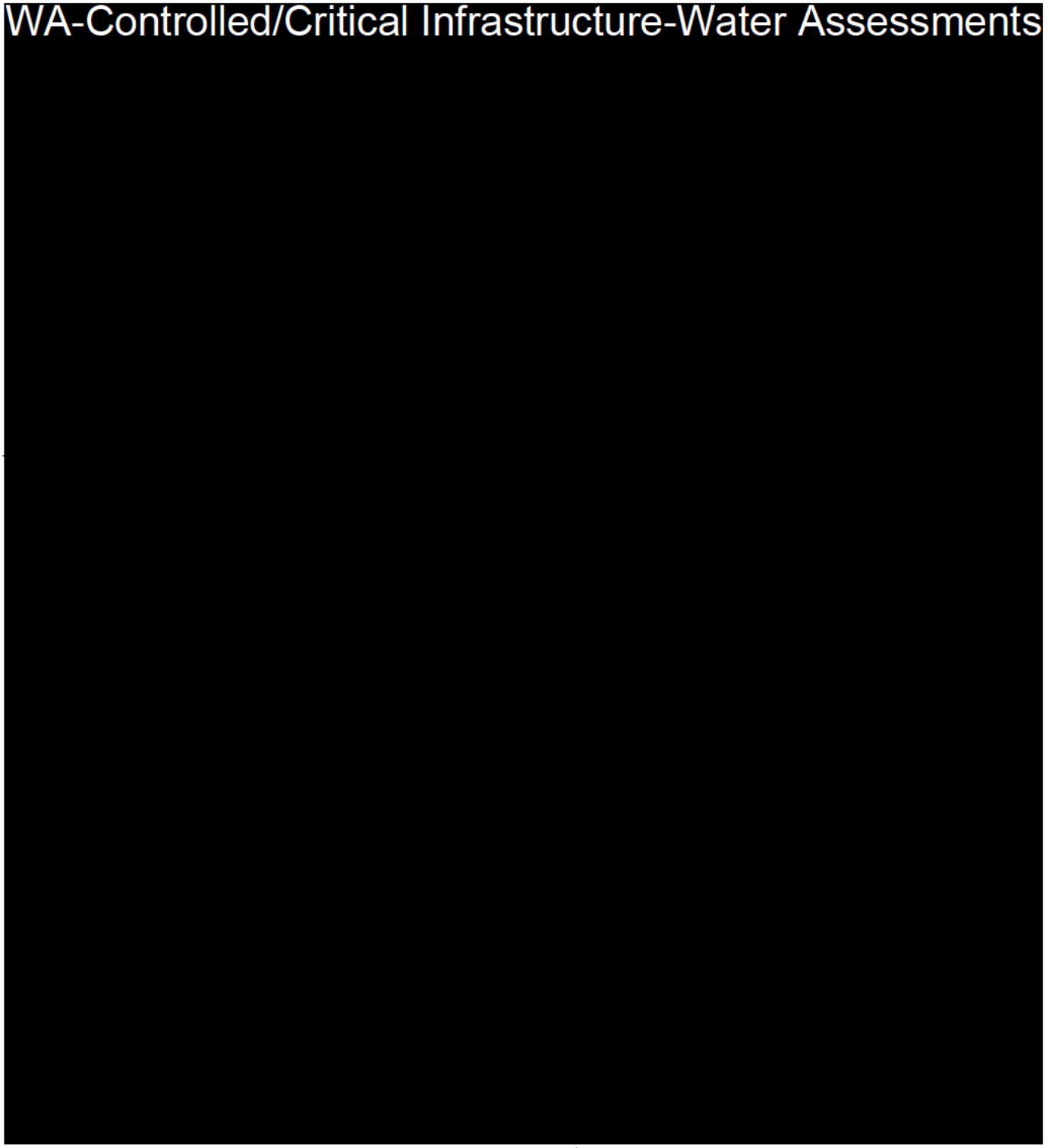
SECTIONAL DISTRICT MAP

NOTE: INDEX MAP SHOWS LOCATION OF SECTIONAL DISTRICT MAPS AND LEGEND OF ZONE SYMBOLS

NOV '8

FIGURE II-3

WELL LOCATION MAP FOR THE WHITTIER SITE WITHIN ONE MILE



MARK LARWOOD COMPANY

70	29
1" = 100'	

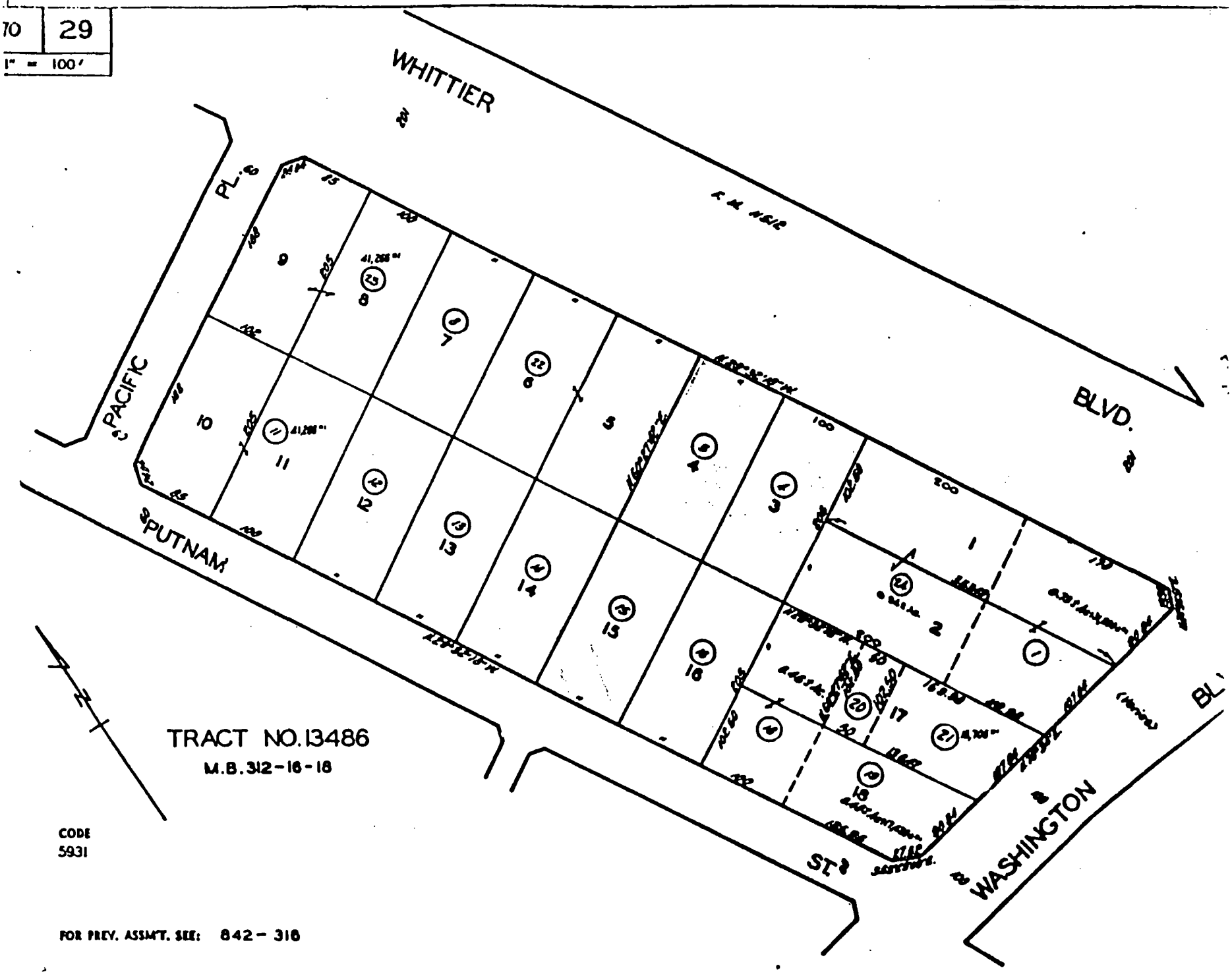


FIGURE II-5

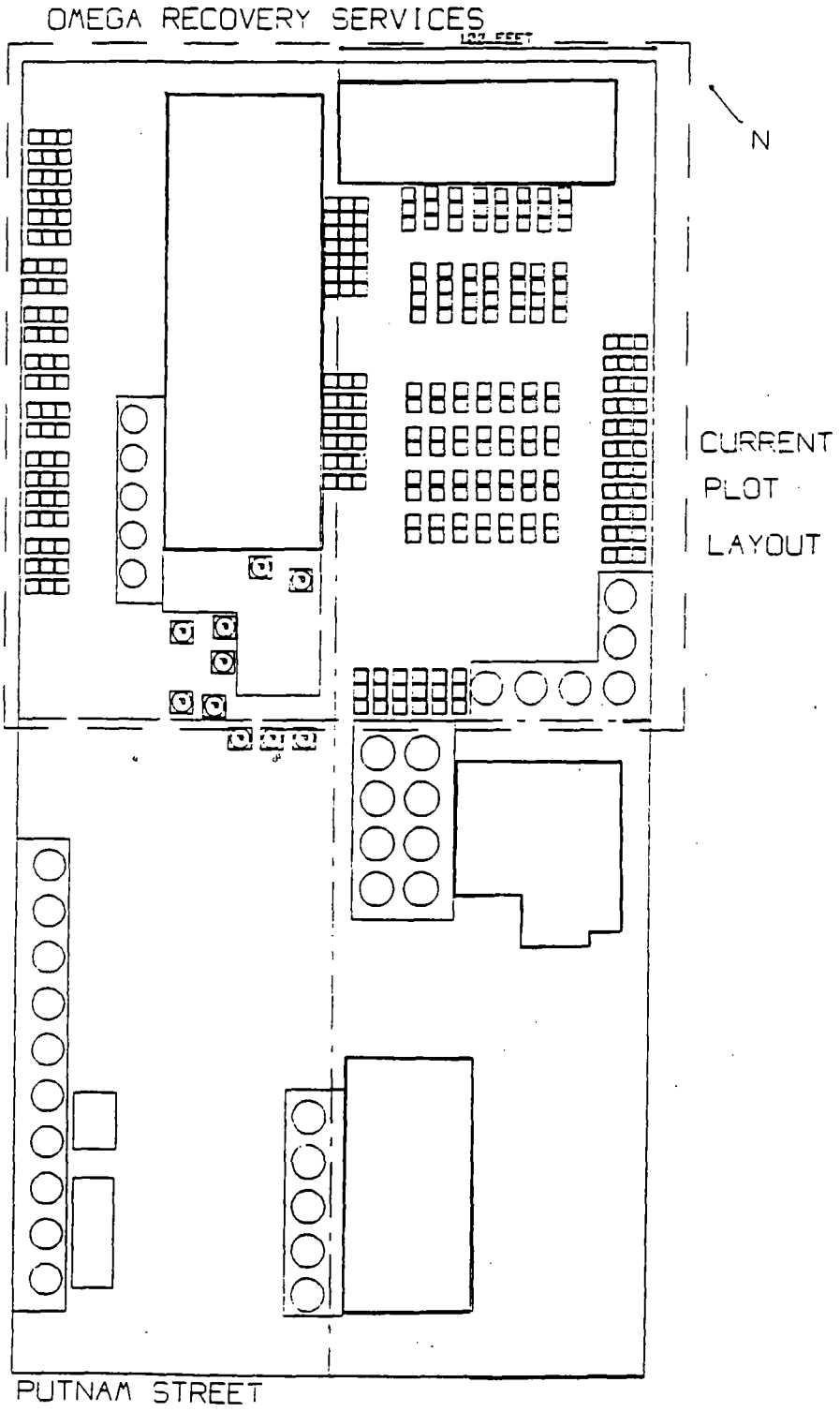

OMEGA RECOVERY SERVICES
N
CURRENT
PLOT
LAYOUT
PUTNAM STREET

FIGURE II-6

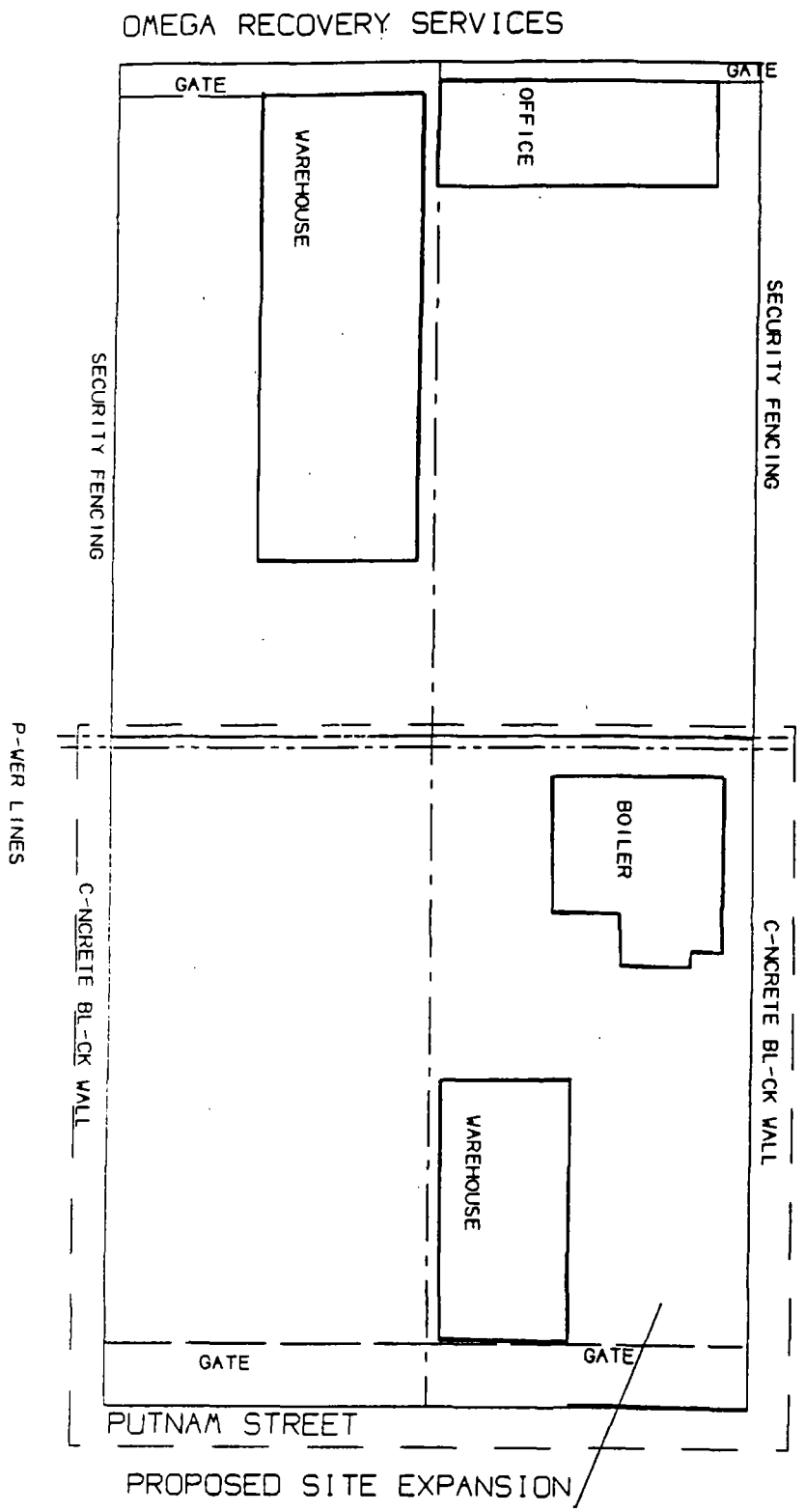
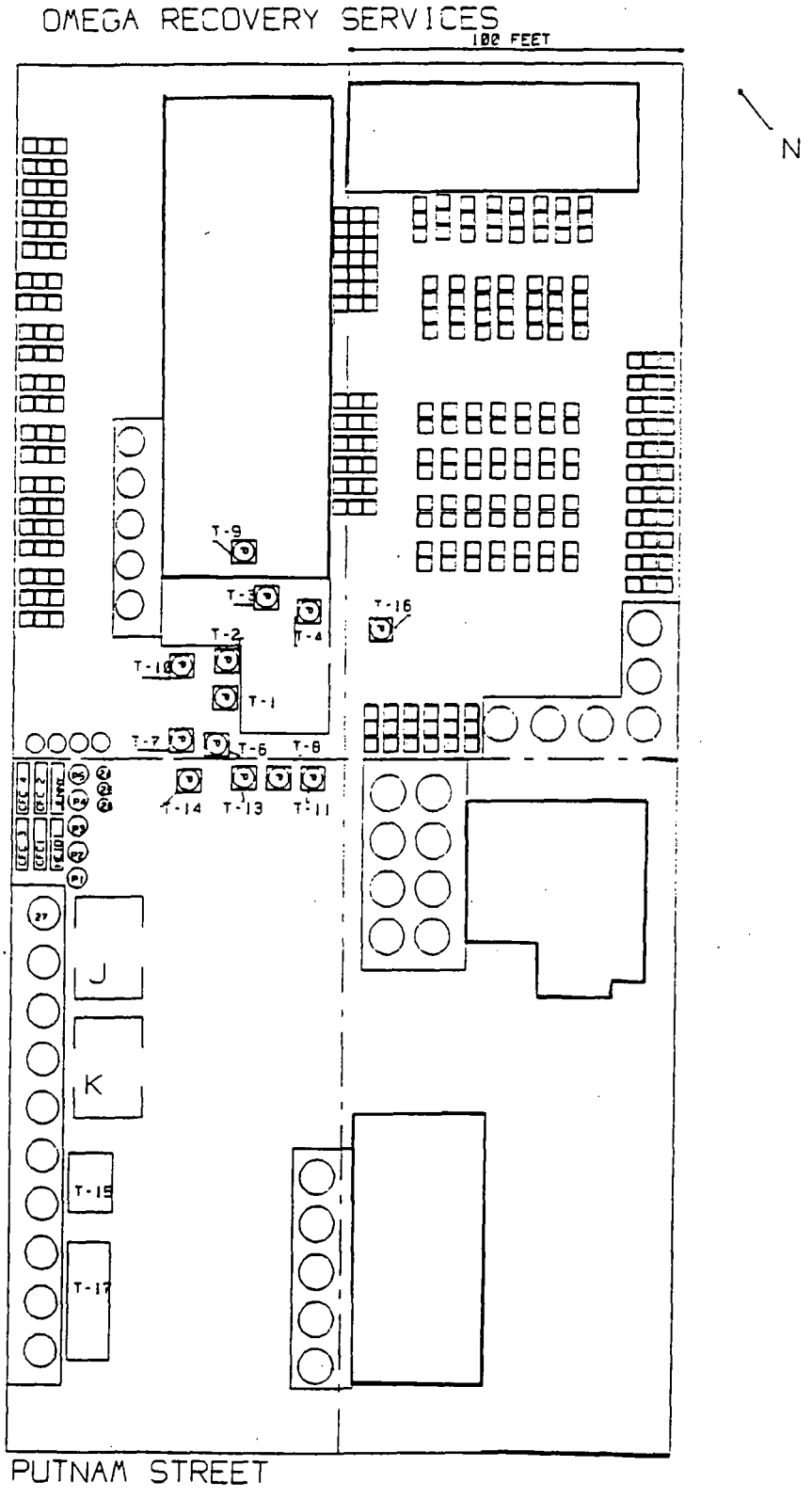

OMEGA RECOVERY SERVICES
GATE
GATE
OFFICE
WAREHOUSE
SECURITY FENCING
SECURITY FENCING
POWER LINES
BOILER
CONCRETE BLOCK WALL
CONCRETE BLOCK WALL
WAREHOUSE
GATE
GATE
PUTNAM STREET
PROPOSED SITE EXPANSION

FIGURE II-7


OMEGA RECOVERY SERVICES
100 FEET
N
T-9
T-3
T-4
T-16
T-2
T-10
T-1
T-7
T-6
T-8
T-14
T-13
T-11
J
K
T-15
T-17
PUTNAM STREET

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

October 31, 1990

IN REPLY PLEASE REFER TO FILE P-4
2-15.93

Mr. Dennis R. O'Meara, President
Omega Recovery Services
12504 East Whittier Boulevard
Whittier, CA 90602

Dear Mr. O'Meara:

REQUEST FOR FLOOD INSURANCE INFORMATION

In response to your inquiry, the property located at 12504 East Whittier Boulevard, in the City of Whittier, is located in Flood Hazard Zone C. Properties in Zone C do not require flood insurance. This information was determined from the Federal Emergency Management Agency's Flood Insurance Rate Map No. 060169-0002B.

Enclosed is a receipt for your Check No. 00324.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Brian L. Smith

for Carl L. Blum
Assistant Deputy Director
Planning Divison

LV:nr
P-4:1/28

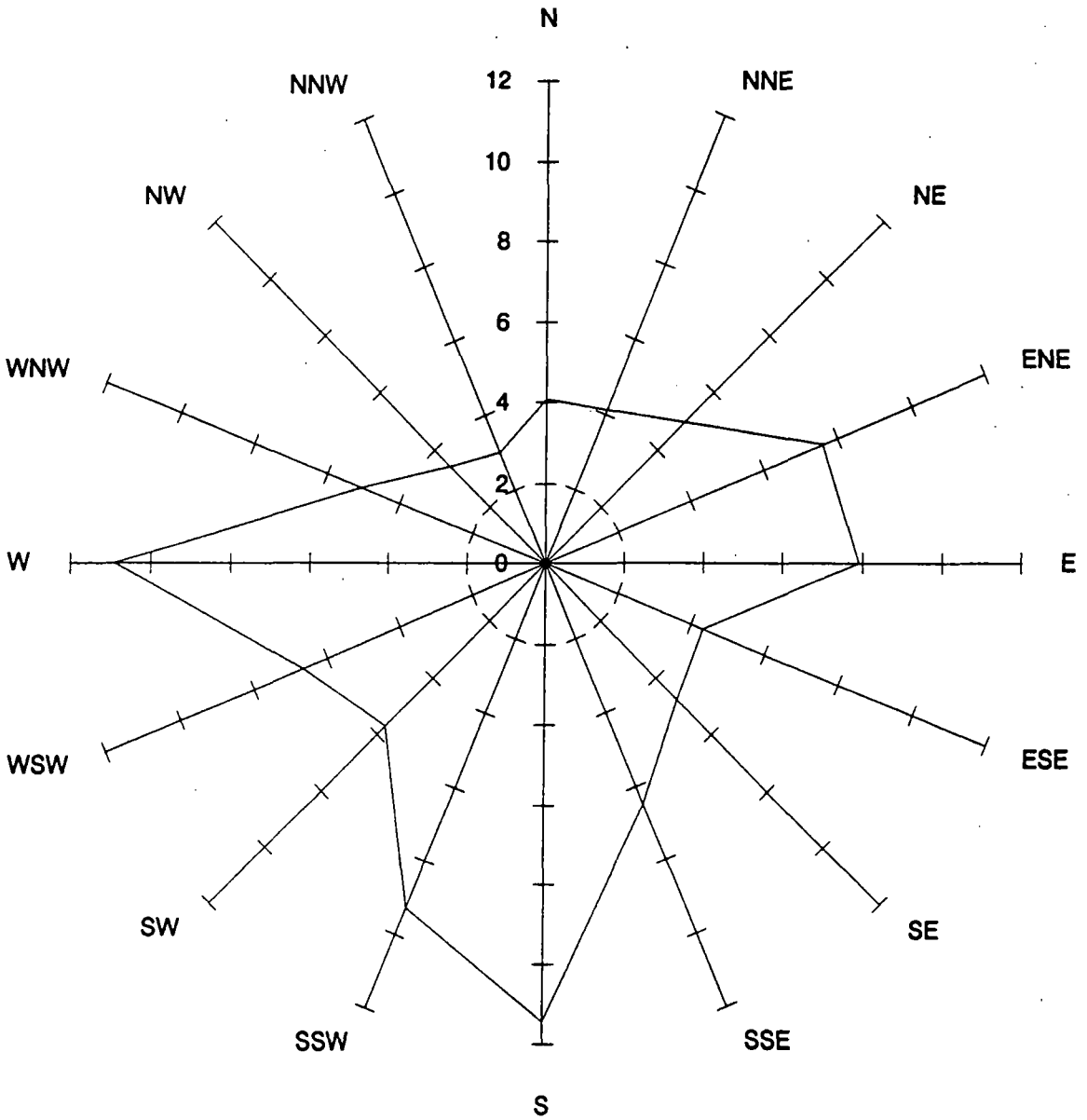
Enc.

Figure II-8

F I G U R E II-9

WINDROSE FOR WHITTIER FACILITY

WIND ROSE MAP OF WHITTIER



Annual Average Miles per Hour

Table VI-1. Wind Frequency Distribution (Percent)

Direction	Speed in MPH									
	0-2	2-4	4-7	7-11	11-16	16-22	22-29	29+	TOTAL	MEAN
N	2.22	2.27	0.42	2.09	2.07	0.01	0.00	0.00	4.08	2.96
NNE	2.33	1.37	0.38	0.03	0.01	0.00	0.00	0.00	4.12	2.63
NE	2.58	1.75	0.52	0.08	0.03	0.01	0.00	0.00	4.97	2.95
ENE	3.36	3.22	0.78	0.21	0.04	0.01	0.00	0.00	7.61	3.10
E	3.36	3.29	0.90	0.28	0.09	0.00	0.00	0.00	7.92	3.25
ESE	1.91	1.62	0.61	0.13	0.04	0.01	0.00	0.00	4.31	3.21
SE	2.32	1.79	0.54	0.09	0.03	0.00	0.00	0.00	4.77	2.97
SSE	2.72	2.27	1.24	0.23	0.03	0.00	0.00	0.00	6.48	3.36
S	3.25	3.68	3.65	0.81	0.06	0.01	0.00	0.00	11.45	4.16
SSW	1.69	2.42	3.95	1.14	0.08	0.00	0.00	0.00	9.28	4.97
SW	1.17	1.59	1.83	0.96	0.16	0.00	0.00	0.00	5.71	5.07
WSW	1.28	1.51	2.43	1.12	0.31	0.03	0.00	0.00	6.67	5.51
W	2.94	3.06	3.31	1.17	0.37	0.06	0.00	0.00	10.90	4.72
WNW	2.01	1.59	0.85	0.44	0.16	0.02	0.01	0.00	5.08	4.02
NW	1.23	0.98	0.55	0.43	0.23	0.03	0.00	0.00	3.45	4.72
NNW	1.31	0.99	0.43	0.16	0.10	0.02	0.00	0.00	3.02	3.75
CALMS								0.17		
TOTALS	35.67	32.40	22.38	7.35	1.80	0.21	0.02	0.01	100.00	3.96

Source: SCAQMD Station 114W, 14427 Leffingwell Road, Whittier, 1969-1975.

Figure II-9A

Wind Frequency Distribution

FIGURE II-10

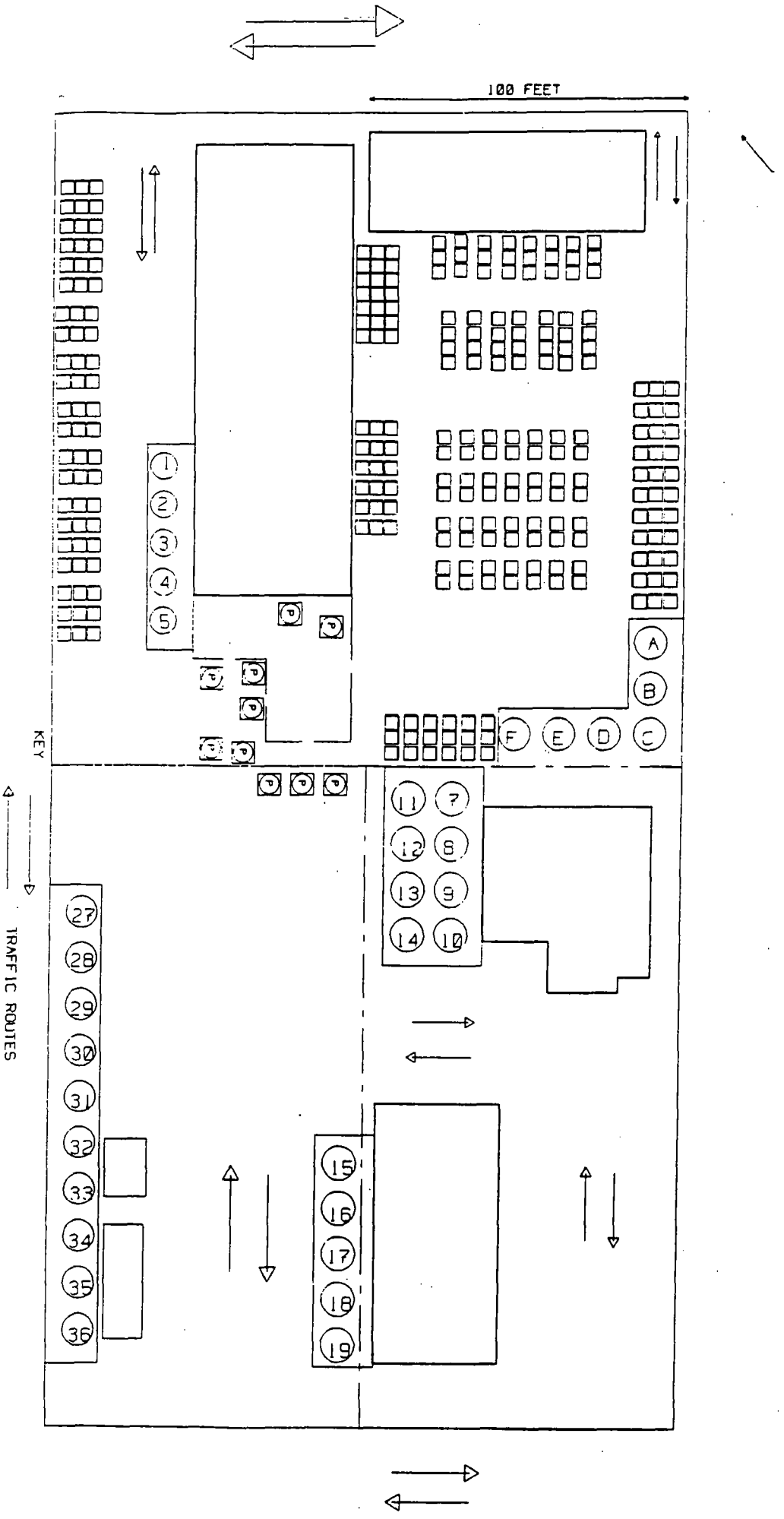

100 FEET
KEY
TRAFFIC ROUTES
1
2
3
4
5
A
B
C
D
E
F
7
8
9
10
11
12
13
14
15
16
17
18
19
27
28
29
30
31
32
33
34
35
36
P

FIGURE II-11

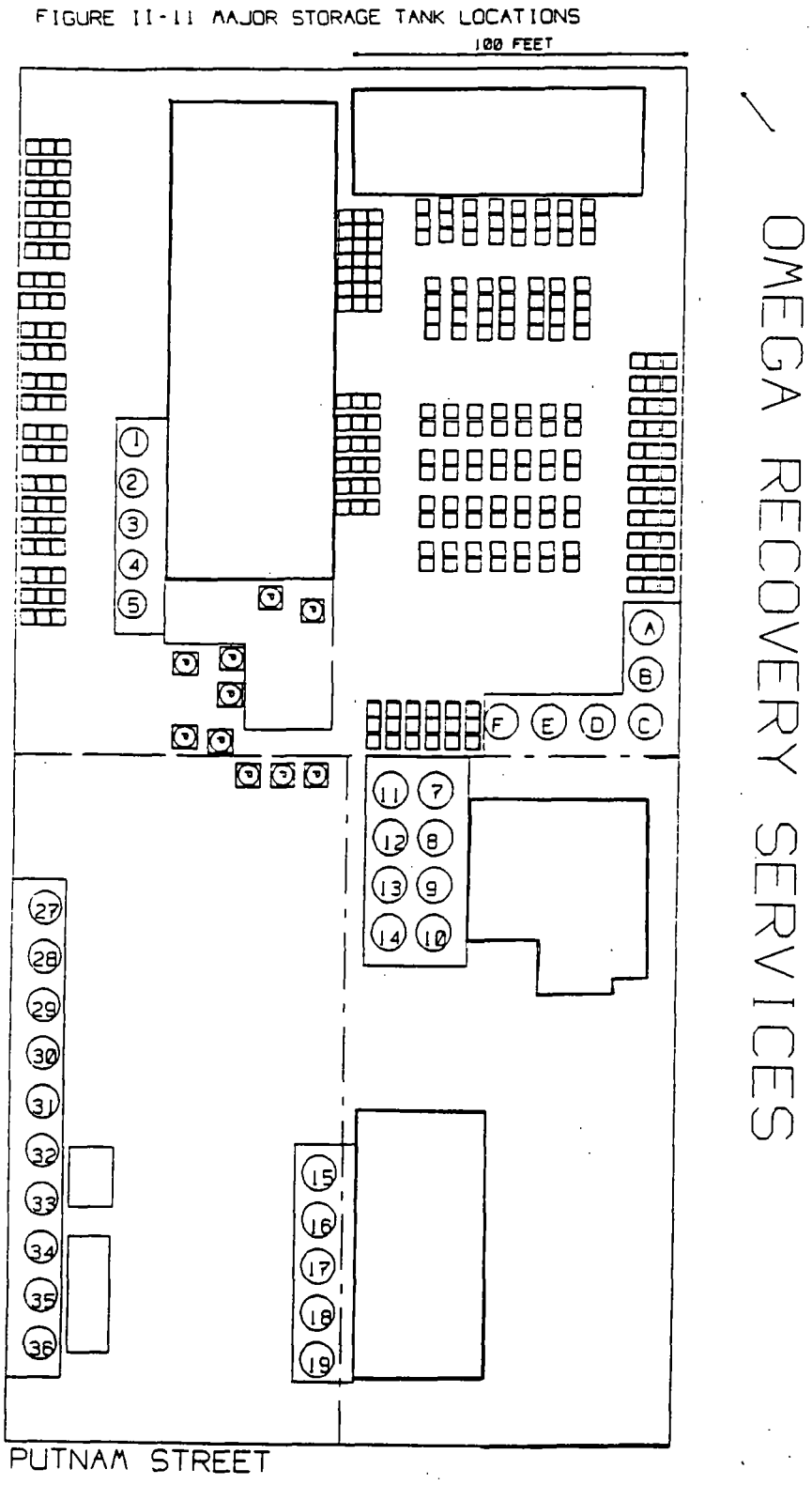


FIGURE II-11 MAJOR STORAGE TANK LOCATIONS
100 FEET
OMEGA RECOVERY SERVICES
PUTNAM STREET

FIGURE II-12

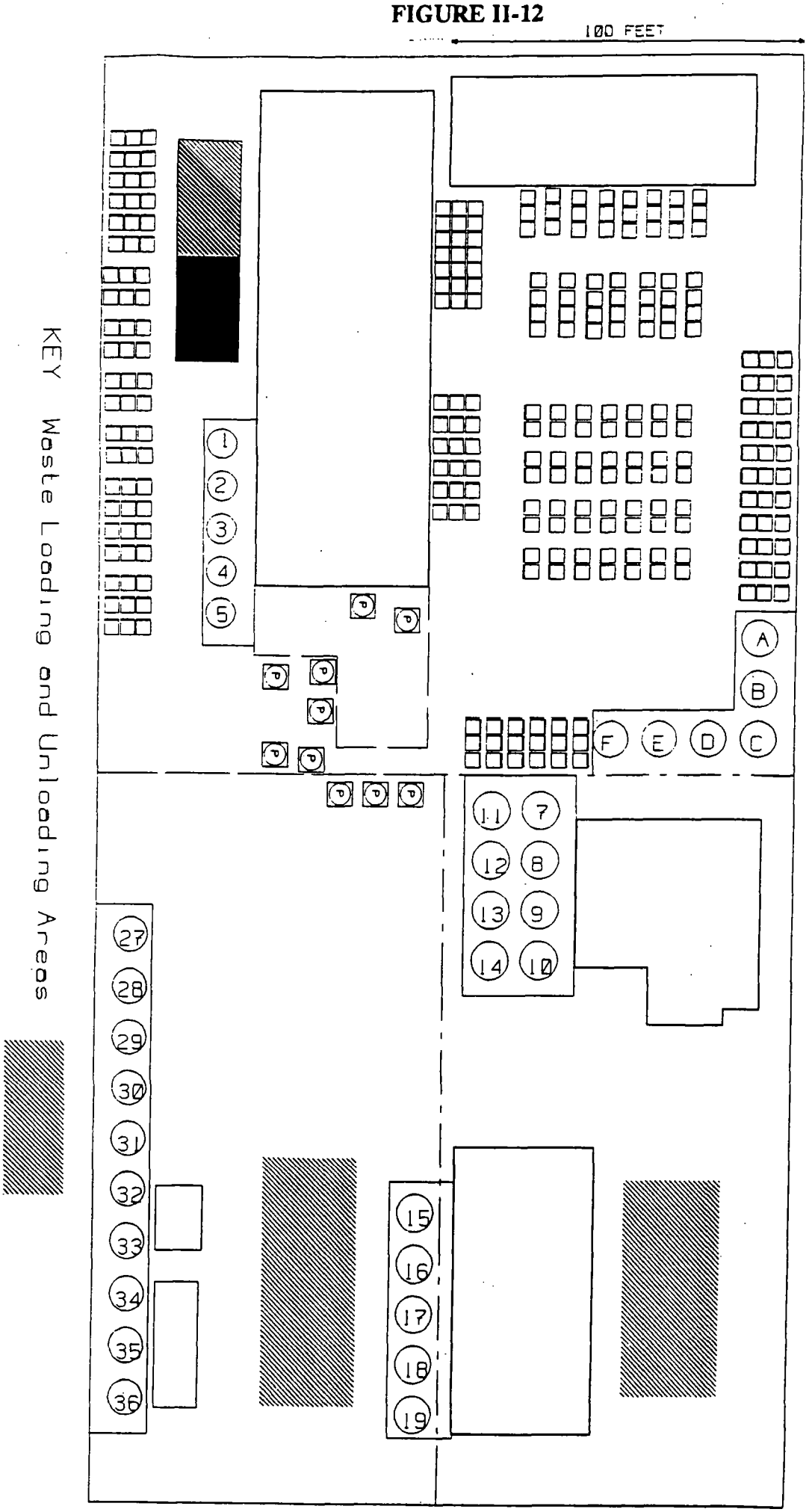
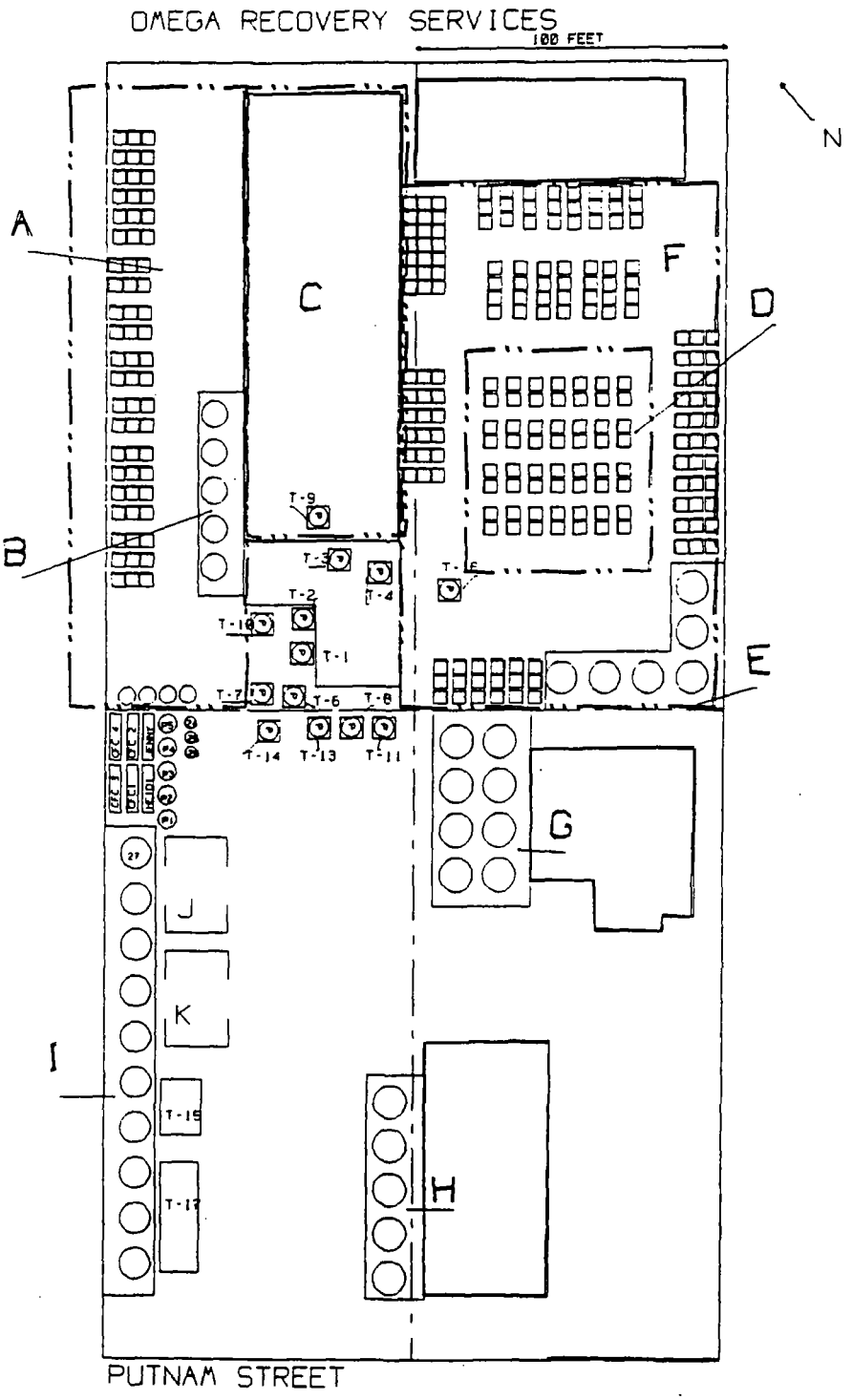

100 FEET
KEY Waste Loading and Unloading Areas
1
2
3
4
5
A
B
C
D
E
F
7
8
9
10
11
12
13
14
15
16
17
18
19
27
28
29
30
31
32
33
34
35
36
P

FIGURE II-13



DRUM AND TANK STORAGE LOCATIONS

Figure II-14

RESERVED FOR FUTURE USE

FIGURE II-15

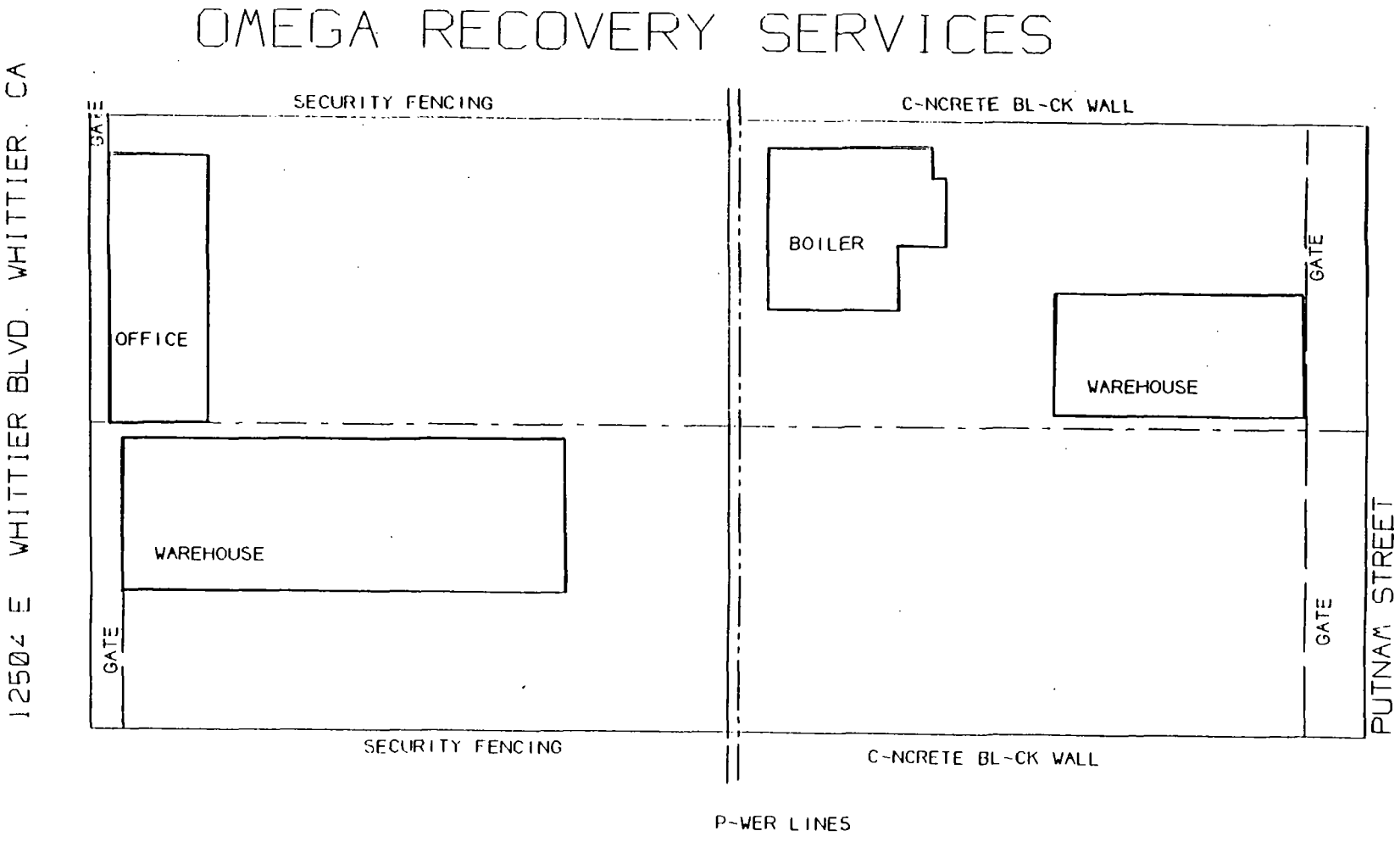

OMEGA RECOVERY SERVICES
12504 E. WHITTIER BLVD. WHITTIER, CA
SECURITY FENCING
CONCRETE BLOCK WALL
GATE
OFFICE
BOILER
GATE
WAREHOUSE
WAREHOUSE
GATE
GATE
PUTNAM STREET
SECURITY FENCING
CONCRETE BLOCK WALL
POWER LINES

FIGURE II-16

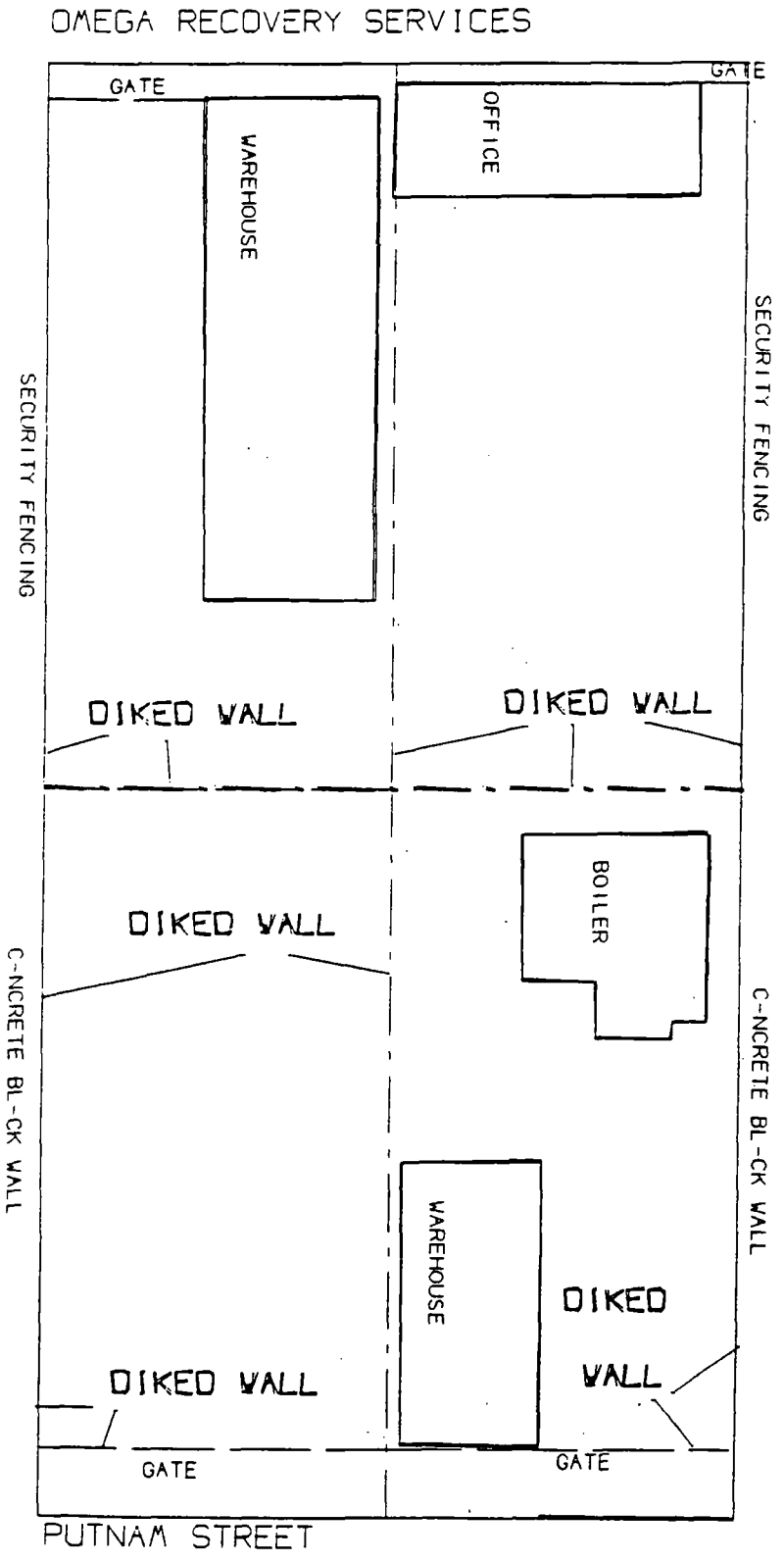

OMEGA RECOVERY SERVICES
GATE
GATE
WAREHOUSE
OFFICE
SECURITY FENCING
SECURITY FENCING
DIKED WALL
DIKED WALL
BOILER
DIKED WALL
C-NCRETE BL-CK WALL
C-NCRETE BL-CK WALL
WAREHOUSE
DIKED
WALL
DIKED WALL
GATE
GATE
PUTNAM STREET

FIGURE II-17

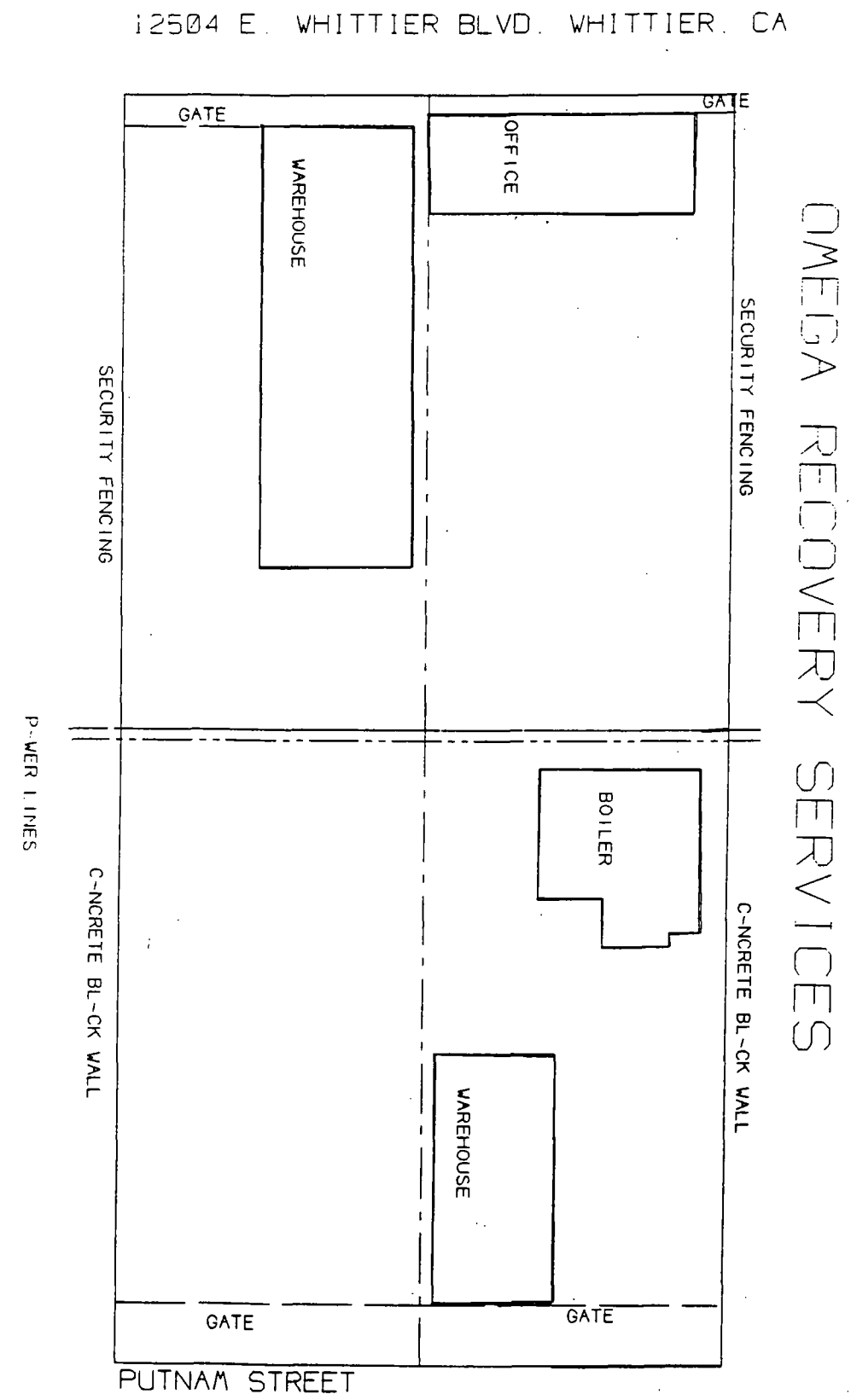

12504 E. WHITTIER BLVD. WHITTIER, CA
OMEGA RECOVERY SERVICES
GATE
GATE
OFFICE
WAREHOUSE
SECURITY FENCING
SECURITY FENCING
POWER LINES
BOILER
CONCRETE BLOCK WALL
CONCRETE BLOCK WALL
WAREHOUSE
GATE
GATE
PUTNAM STREET

Figure II-18
Property Tax Records showing
Omega owner of property in
1990

JOINT CONSOLIDATED ANNUAL TAX BILL

CITIES, COUNTY, SCHOOLS AND ALL OTHER TAXING AGENCIES IN LOS ANGELES COUNTY
SECURED PROPERTY TAX FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991
SANDRA M. DAVIS, TREASURER AND TAX COLLECTOR

COUNTY OF LOS ANGELES

OWNER OF RECORD AS OF MARCH 1, 1990
SAME AS BELOW

8170 029 005
OMEGA CHEMICAL CORP
12504 E WHITTIER BLVD
WHITTIER CA 90602

PROPERTY LOCATION AND / OR PROPERTY DESCRIPTION
12504 WHITTIER BLVD WHITTIER C
TRACT NO 13486 LOT 4

ACCOUNT NO.	PRINT NO	REG.	DIVISION INDEX BATCH NO	ASSESSOR'S ID. NO. Year	Seq. No.	Map Book	Page	Parcel	TRA
	643930	11		90	000	8170	029	005	05931

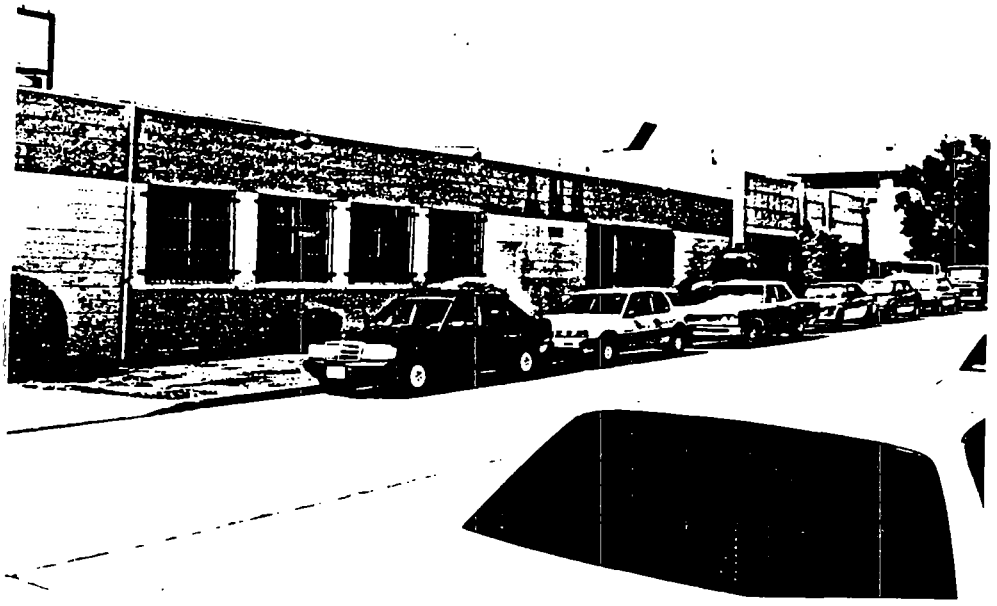
OMEGA CONFIDENTIAL

ROLL YEAR 90-91	CURRENT ASSESSED VALUE		TAXABLE VALUE
LAND	188190		188190
IMPROVEMENTS	48898		48898
FIXTURES			
		TOTAL	237088
		LESS EXEMPTION	
		NET TAXABLE VALUE	237088

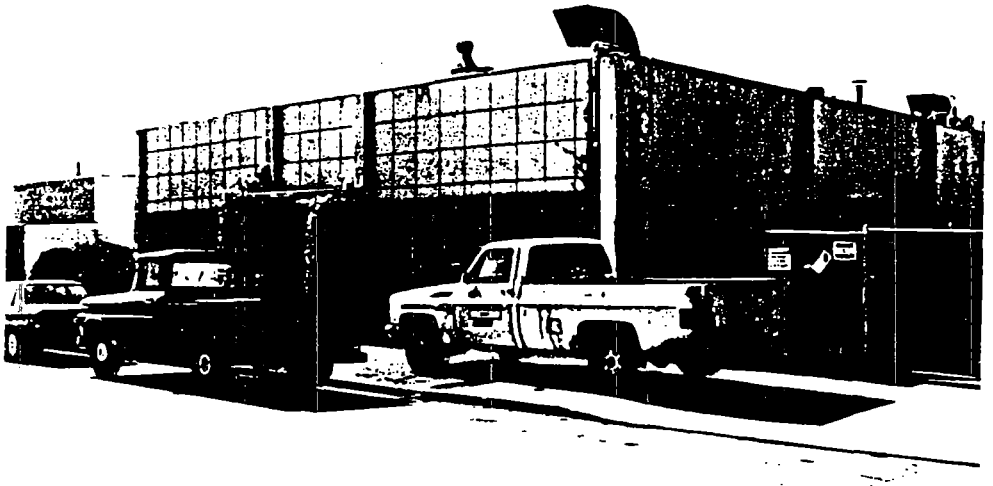
DETAIL OF TAXES
GENERAL TAX L
ALL AGENCIES
VOTED INDEBTE
COUNTY
FLOOD CONTRO
METRO WATER
DIRECT ASSESS
FLOOD CONTRO
MOSQUITO ABA
SAN DISTRICT
CITY SEWER C

FIGURE II-19

PHOTOGRAPH ESSAY OF CURRENT FACILITY

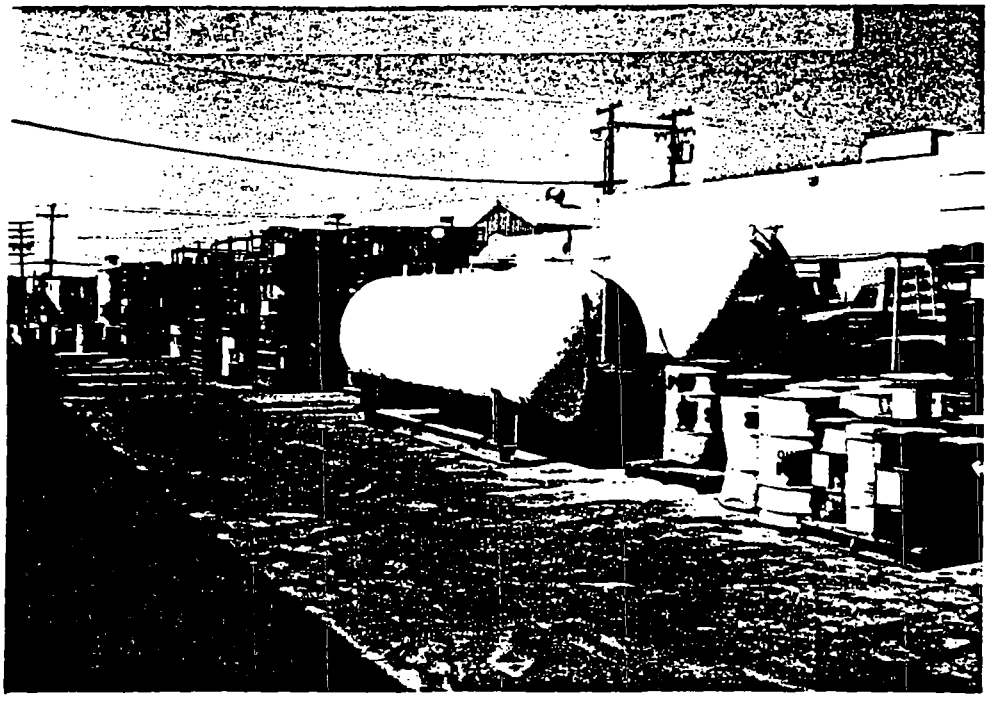


Title: Front View of Administration Bldg on Whittier Blvd

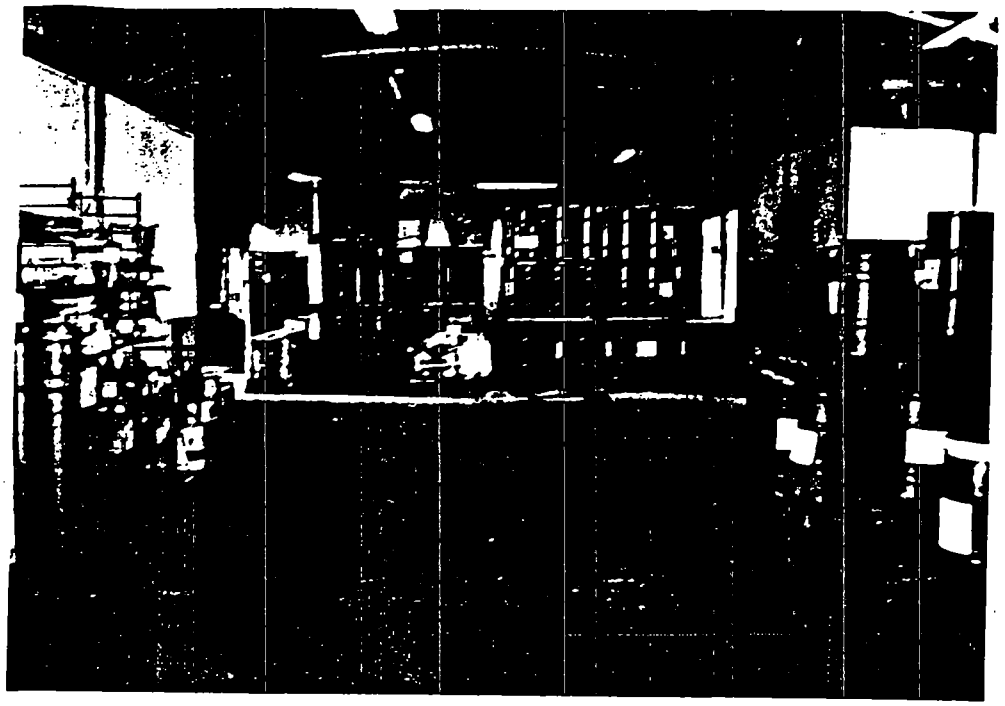


Title:Front View of Warehouse Bldg on Whittier Blvd.

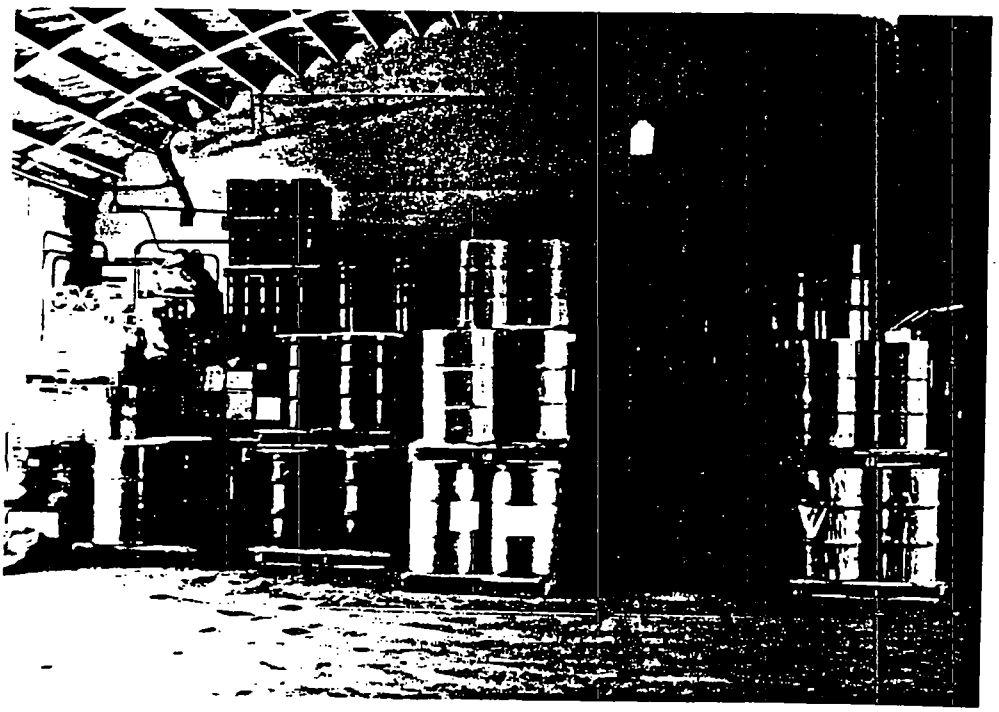
Title: Front View of Main Gate on Whittier Blvd



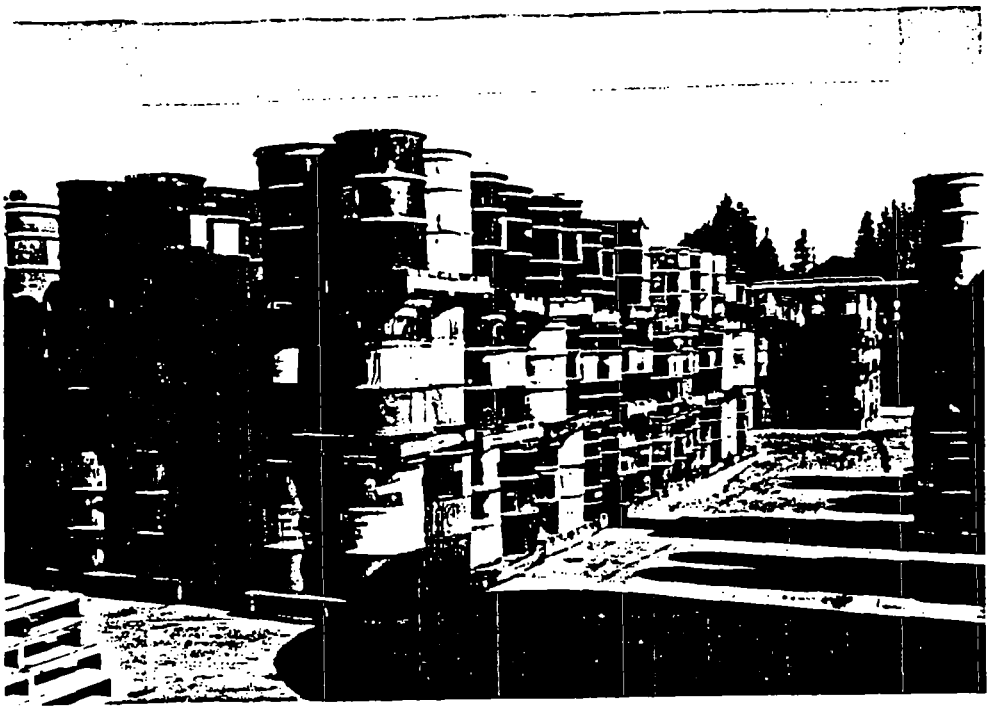
Title: View of Receiving Area on Whittier Blvd.



Title: Looking North Inside Warehouse on Whittier Blvd



Title: Looking South Inside Warehouse on Whittier Blvd.

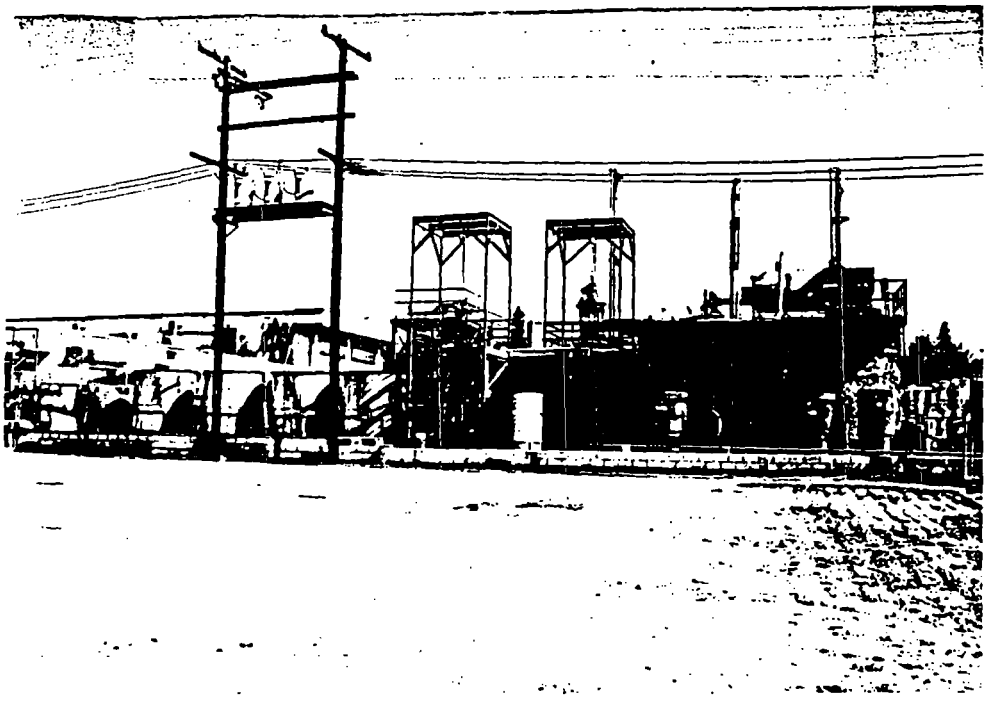


Title: Looking North Drum Storage South Yard

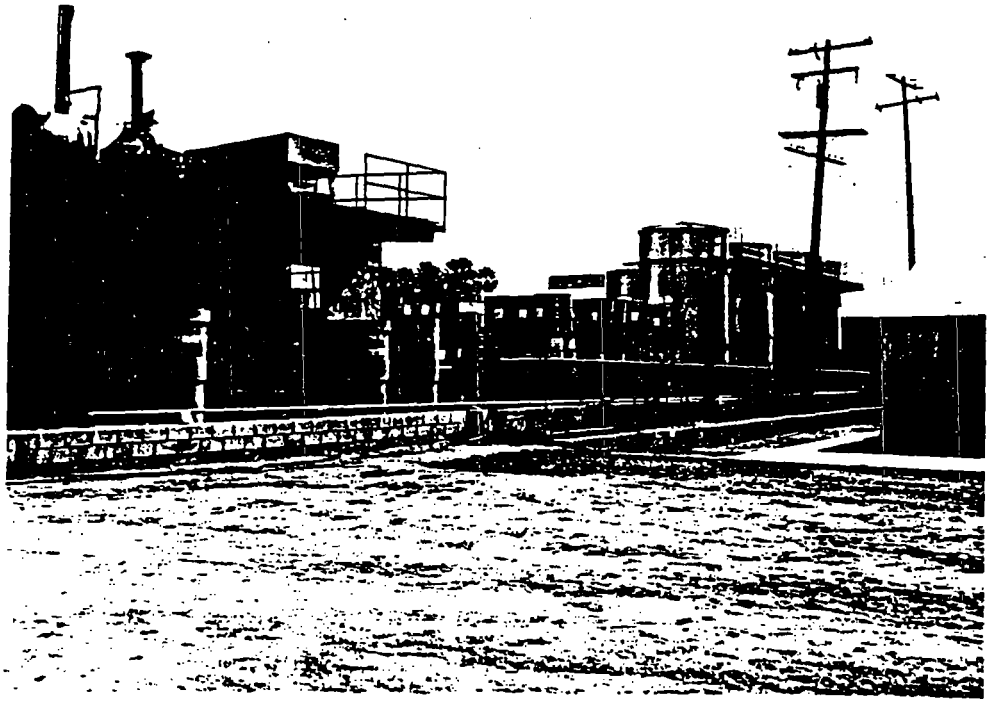
Title: Looking West in Drum Storage South Yard.

Title: 10,000 Gallon Tanks in South Yard

Title: Looking East in Drum Storage South Yard.



Title: Looking North from Proposed Treatment Facility



Title: Looking East from Proposed Treatment Facility Expansion.

Title: Looking North from Proposed Treatment Facility Expansion on Putnam St.

Title: Looking East from Proposed Treatment Facility Expansion on Putnam St..

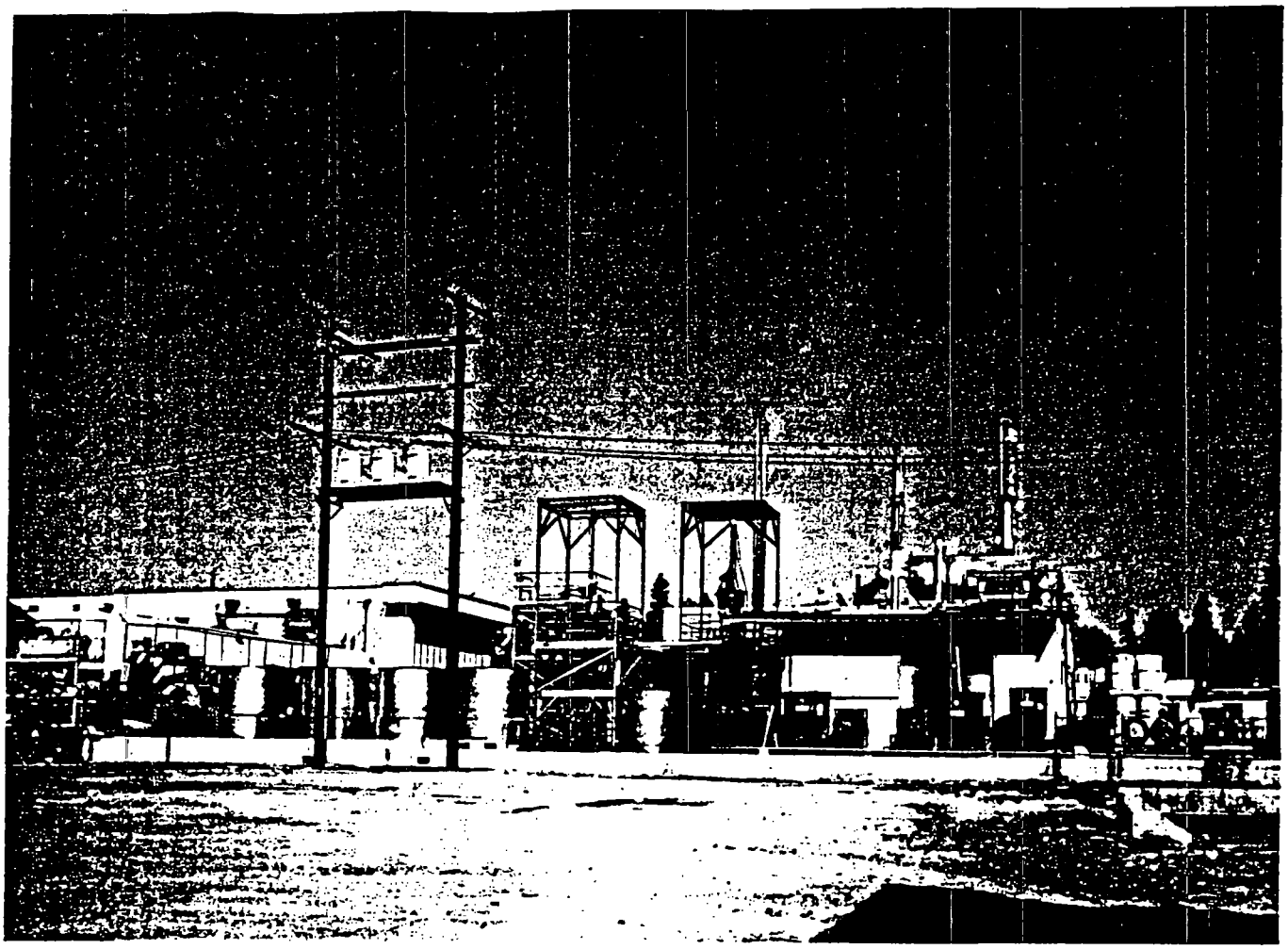


PHOTO: ENGINEERING-SCIENCE

CLOSE-UP OF PROCESS EQUIPMENT

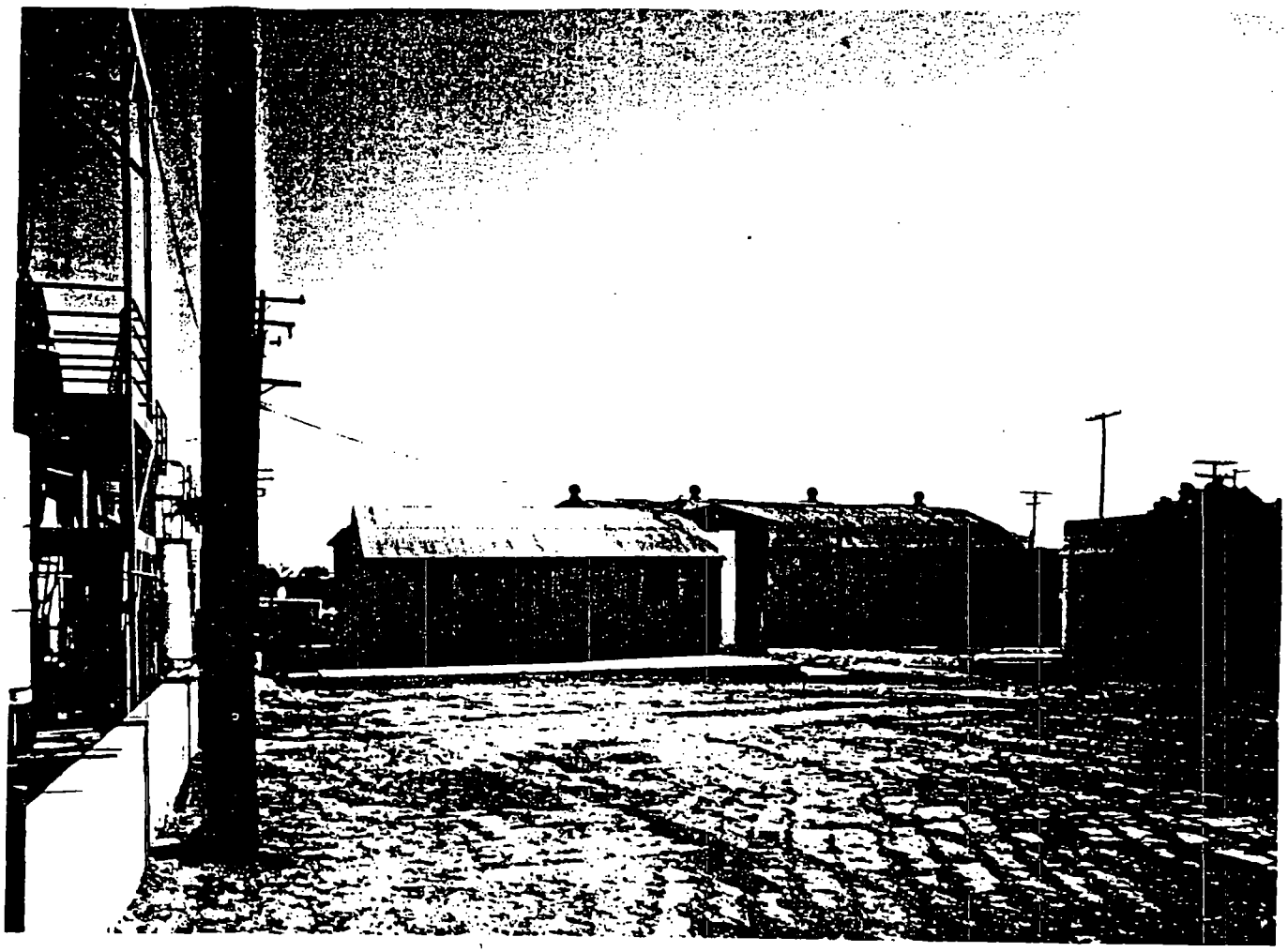


PHOTO: ENGINEERING-SCIENCE

PROPOSED EXPANSION SITE

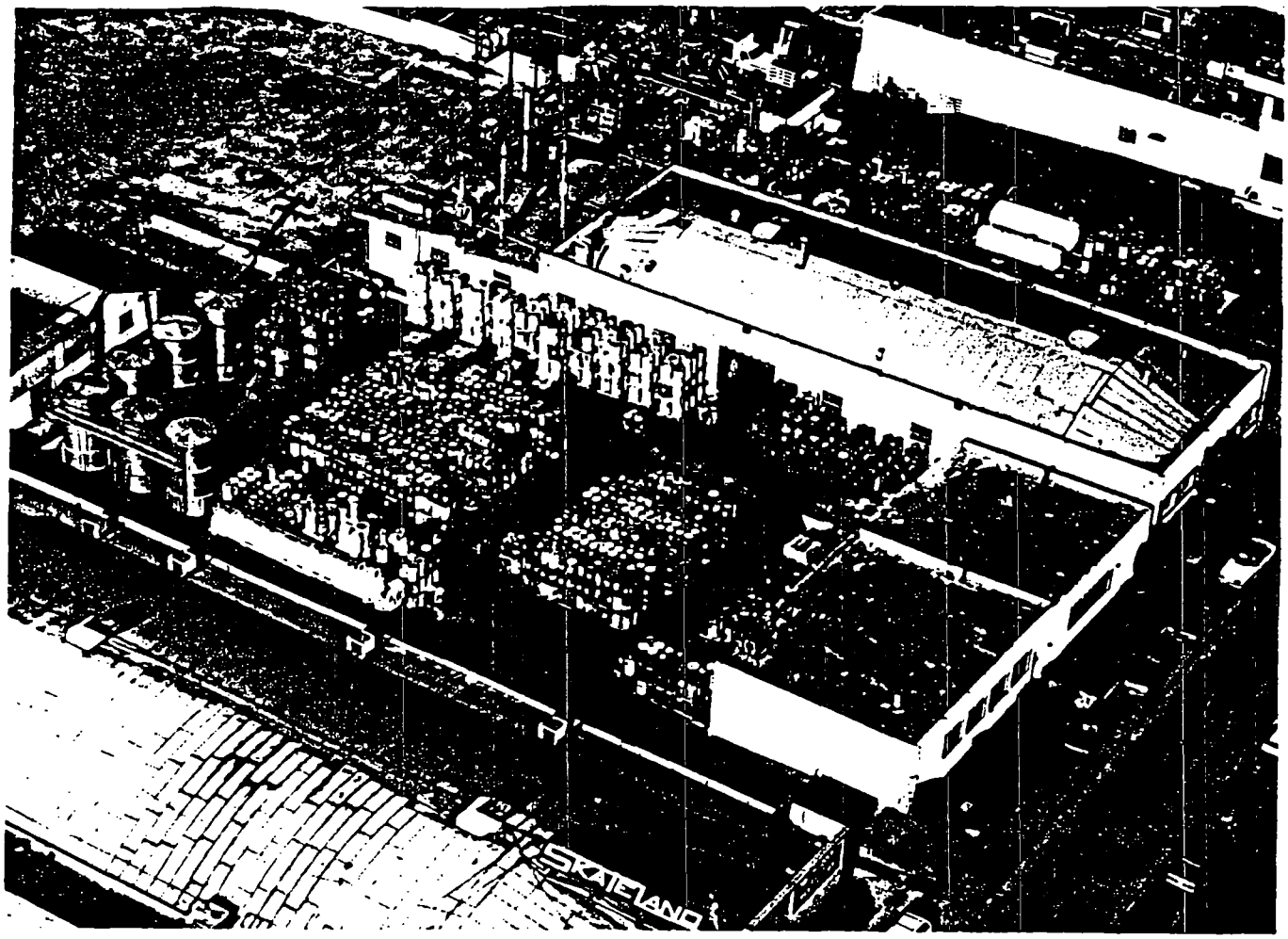
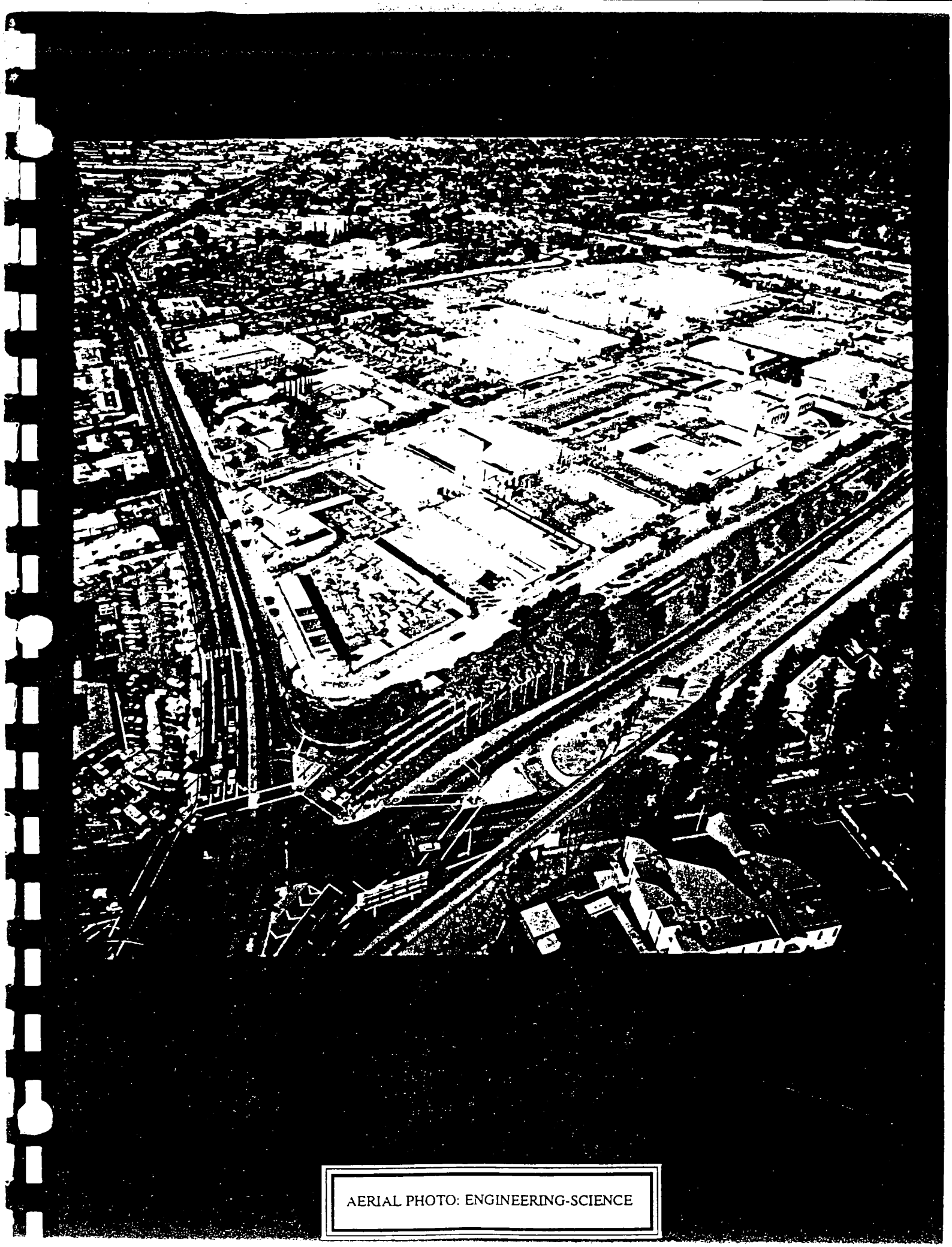


PHOTO: ENGINEERING-SCIENCE

EXISTING FACILITY



AERIAL PHOTO: ENGINEERING-SCIENCE

OMEGA RECOVERY SERVICES EXPANSION

III. GEOLOGY OF THE SITE

The climate of the Whittier Area which is part of the San Gabriel Valley is categorized as semi-arid with an average annual rainfall of between 13 to 20 inches. Precipitation occurs mainly during the winter and spring months. The National Oceanic and Atmospheric Association (NOAA) climatological station nearest to the facility is located in Whittier.. This station has compiled many decades of of meteorological records. The average annual precipitation at the station is 15.43 inches, and ranges from a low of 4.86 inches to a high of 36.73 inches. A 24-hour/25-year storm event of 5.61 inches (0.47 feet) has been estimated from station records (see Figure III-1). The average monthly temperatures in the San Gabriel Valley range from 41^{O}F to 89^{O}F (see Figure III-1).

The combination of climate and alluvium supports only sparse yucca-sumac types of vegetation near the facility.

III.A. GEOLOGY

The Omega facility is located within the greater San Gabriel Valley, which is physiographically defined to the north by the San Gabriel Mountains, to the north by the Puente-Repetto Hills Complex.

The geology beneath the facility consists of thick series sandstone, siltstone, and conglomerate beds west of Hacienda Boulevard is named tentatively as middle Puente. It represents a facies change of the eastern section with coarsening to the west The distinction in the lithology of the two eastern units disappears in the west as the amount of coarset material increases. A fault of unknown displacement as shown on the Figure III-2 accentuates the difference between the series east and the series west of Hacenda.

The top of the western section is the base of a medium grained brown sandstone approximately 50 feet thick marking a change in lithology to the thinly bedded upper Puente sandstone and siltstones of the overlying beds.

III.B HOLOCENE FAULTS AND SEISMICITY

There is the Whittier Fault which is located over 3000 feet from the Omega facility and the site is not located within an Alquist-Priolo Special Studies Zone (see Figure III-8). The dominant structural feature of the San Gabriel Valley area is the frontal fault zone termed the Sierra Madre Fault Zone, along which the San Gabriel mountains have been uplifted. Further study shows that there are no faults within 200 feet of the Omega facility.

The Puente Hills are essentially a west trending anticline that is complicated by secondary folding and faulting. The predominant structural feature of the Puente Hills is the Whittier fault or fault zone. This major structure trends southeast along the south flanks of the Puente Hills and extends from the vicinity of the Whittier Narrows into Orange County. Northeast of the City of Whittier, the principal fault separates into a complex of smaller breaks and probably diminishes as it approaches the Whittier Narrows. Available oil well data indicate that it is a high angle reverse fault, with the north side rising over the south side at an angle of approximately 70 degrees. Offset drainage of La Mirada Creek and Turnbull and Brea Canyons in Orange County suggest that right lateral displacement has occurred along the fault in relatively late geologic time, the southwest side having moved several thousand feet northwest relative to the north east side.

The Puente Hills have been uplifted by vertical displacemetn along the Whittier fault and by normal faulting along the Workman Hill, Handorf and Rowland fault systems. The hills are further characterized structurally by minor faults, unconformities, and tight and overturned folds in sediments of Miocene, Pliocene and Pleistocene age. South of the Whittier fault zone, an angular unoconformity exists between Pico and overlying San Pedro sediments, but both formations have a general southerly homoclinal dip on the LaHabra syncline.[1]
Source: Geology of Whittier-LaHabra Area, State of California Department of Natural Resources, Special Report 18, March 1952, Out of Print.

Figure III-3 shows that the closest fault to the site is the Whittier Fault which is over 2 miles from the facility.

Since all the processing and treatment is done in tanks aboveground. All the tanks have secondary containment. Therefore the potential for groundwater contamination is an extremely rare possibility. The groundwater is below 200 hundred feet. This further establishes the geology of the site to being safe and proper for operation of a resource recovery facility

IIIC: GROUNDWATER DEPTH

A information for the depth to Ground water was obtained from California Department of Water Resources, Los Angeles Division. A search of the records provided the following data. A well location map for the Whittier Quadrangle showed that there is only one active well that lists data that is within one mile radius of the site. (See Figure III-4). The data from the well data is shown in Table III-1. This well is not being used for water use.

The depth to ground water is shown in Figure III-5 which is taken from the "Ground Water Geology of the Coastal Plain of Los Angeles County Appendix A". This was published in June 1961 by Department of Water Resources as Bullentin #104. It is now out of print. It shows the various depths to different aquifiers under the Omega site. The depth to the Jefferson Aquifier is approximately 300 feet. The depth to the Lynwood Aquifier is over 400 feet.

Figure III-6 Location of Aquifers

Figure III-7 Groundwater Contours

---

1 Sources for the information were obtained from the following:
"Geology of the Whittier- La Habra Area, Los Angeles, County" by Charles Kundert, published by Division of Mines Department of Natural Resources of California, Special Report 18, March 1952. This document is out of print.
"Geology & Oil Resources of the Western Puent Hills Area", by R. F. Yerkes, published by the US Geological Division, Professional Paper 420C 1972. This document is out of print
"Geologic Map of California", published by the Resources Agency of California, 1977.
"Map Showing Late Quantum Faults of LA Region" Published by US> Geological Division, Map MF1964

TABLE III-1 WATER DATA FROM WELL NUMBER 2S/11W 29E5

Specification	June 1987	June 1984
Dissolved Hardness	329 mg/l	429 mg/l
Dissolved Calcium	97.7 mg/l	122 mg/l
Dissolved Magnesium	19.7 mg/l	29.7 mg/l
Dissolved Sodium	74.8 mg/l	57.0 mg/l
Dissolved Potassium	4.4 mg/l	3.9 mg/l
Total Alkalinity as Calcium Carbonate	179 mg/l	172 mg/l
pH	7.7	7.8
Sulfate	164 mg/l	217 mg/l
Chlorine	75.0 mg/l	91.0 mg/l
Nitrate	N/A	19.9 mg/l
Fluorine	0.3 mg/l	0.3 mg/l
Boron	0.23 mg/l	.18 mg/l
Dissolved Solids	570 mg/l	690 mg/l
Conductance	950 mohms	1050 mohms
Dissolved Silica	1101 mg/l	1101 mg/l

Figure III-1
Climatological Data

The closest station of National Oceanic And Atmospheric Association station is the County of Los Angeles Fire Station located in City of Whittier.

The data is obtained from the National Climatological Data Center in Ashville, North Carolina.

The average annual precipitation at the station is 15.43 inches.
The lowest precipitation of the last 25 years is 4.86 inches
The highest precipitation of the last 25 years is 36.73 inches.

Mean Precipitation

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
mean	3.34	2.88	2.51	1.27	.23	.04	.01	.1	.24	.30	1.96	2.55	15.43

The maximum precipitation for a 24 hour duration is 5.61 inches.

The average monthly temperatures for San Gabriel Valley range from 41^{O} F to 89 ^{O}F.
Temperature Normals (Deg. ^{O}F)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Max	68.3	70.4	71.2	74.1	77.0	82.1	89.1	89.3	87.9	82.0	74.9	69.9	78.0
Min	41.3	42.9	44.9	47.8	52.2	56.3	60.4	61.1	58.6	53.0	45.9	41.3	50.5
Mean	54.8	56.7	58.1	61.0	64.6	69.2	74.8	75.2	73.3	67.5	60.4	55.6	64.3

The air quality is shown in Figure III-1A from the South Coast Air Quality Management District.

SOUTH COAST AIR QU[illegible] MANAGEMENT DISTRICT

Source/ Receptor Area No.	Location of Air Monitoring Station	Carbon Monoxide: Max. Conc. in PPM 1-Hour	Carbon Monoxide: Max. Conc. in PPM 8-Hour	Carbon Monoxide: No. Days Standard Exceeded: Federal ≥ 9.5 PPM 8-Hr.	Carbon Monoxide: No. Days Standard Exceeded: Federal > 35 PPM 1-Hr.	Carbon Monoxide: No. Days Standard Exceeded: State ≥ 9.1 PPM 8-Hr.	Carbon Monoxide: No. Days Standard Exceeded: State > 20 PPM 1-Hr.	Ozone: Max. Conc. in PPM 1-Hour	Ozone: No. Days Standard Exceeded: Federal > .12 PPM 1-Hour	Ozone: No. Days Standard Exceeded: State > .09 PPM 1-Hour	Nitrogen Dioxide: Max. Conc. in PPM 1-Hour	Nitrogen Dioxide: Average Compared to Federal Standard[a]: AAM in PPM	Nitrogen Dioxide: Average Compared to Federal Standard[a]: % Above Std.	Nitrogen Dioxide: No. Days Std. Exc'd. State > .25 PPM 1-Hour	Sulfur Dioxide: Max. Conc. in PPM 1-Hour	Sulfur Dioxide: Max. Conc. in PPM 24-hour	Sulfur Dioxide: Average Compared to Federal Standard[b]: AAM in PPM	Sulfur Dioxide: No. Days Std. Exc'd.[c]: Federal > .14 PPM 24-Hr.	Sulfur Dioxide: No. Days Std. Exc'd.[c]: State ≥ .05 PPM 24-Hr.[d]	Visibility: Location	Visibility: Days not Meeting State Std.[e]
1	Los Angeles	14*	9.8*	2*	0*	2*	0*	.25	34	76	.28	.0553	3.3	1	.03	.014	.0022	0	0	Burbank Airport	214
2	W. Los Angeles	12	8.0	0	0	0	0	.25	15	65	.22	.0315	0	0	.02	.012	.0024	0	0		
3	Hawthorne	23	16.4	25	0	28	2	.19	3	11	.24	.0374	0	0	.09	.019	.0047	0	0	Los Angeles	
4	Long Beach	13	10.1	2	0	2	0	.16	3	10	.27	.0428	0	1	.11	.022	.0046	0	0	International	150
5	Whittier	13	8.8	0	0	0	0	.26	37	70	.29	.0444	0	1	.04	.016	.0036	0	0		
6	Reseda	17	12.5	11	0	15	0	.23	54	120	.18	.0390	0	0	.02	.011	.0018	0	0	Long Beach	
7	Burbank	20	13.9	18	0	21	0	.20	40	97	.25	.0507	0	0	.03	.012	.0020	0	0	Airport	210
8	Pasadena	14	8.4	0	0	0	0	.27	80	140	.34	.0531	0	2	.02	.010	.0022	0	0		
9	Azusa	7	5.8	0	0	0	0	.33	112	164	.27	.0511	0	2	.02	.010	.0017	0	0	William J. Fox	
9	Glendora	NM	NM	NM	NM	NM	NM	.34	121	171	.22	.0389	0	0	NM	NM	NM	NM	NM	Airport	2
10	Pomona	12	7.4	0	0	0	0	.25	61	117	.26	.0571	6.7	1	NM	NM	NM	NM	NM	(Lancaster)	
11	Pico Rivera	13	10.7	1	0	2	0	.26	61	108	.31	.0547	2.2	2	.04	.022	.0045	0	0		
12	Lynwood	31	21.8	55	0	61	16	.14	7	30	.34	.0459	0	2	.04	.016	.0042	0	0		
13	Santa Clarita	12*	5.4*	0*	0*	0*	0*	.25	71	122	.13*	.0368*	0*	0*	.02*	.007*	.0009*	0*	0*		
14	Lancaster	13	7.1	0	0	0	0	.21	27	95	.08	.0186	0	0	NM	NM	NM	NM	NM		
16	La Habra	24	10.7	6	0	7	7	.26	36	76	.23	.0428	0	0	.03	.011	.0021	0	0		
17	Anaheim	19	12.1	5	0	5	0	.24	13	42	.28	.0472	0	1	.03	.014	.0031	0	0		
17	Los Alamitos	NM	NM	NM	NM	NM	NM	.16	11	35	NM	NM	NM	NM	.07	.014	.0027	0	0		
18	Costa Mesa[f]	16*	12.7*	5*	0*	8*	0*	.11*	0*	2*	.22*	.0463*	0*	0*	.03*	.006*	.0015*	0*	0*		
19	El Toro	9	5.1	0	0	0	0	.23	7	30	NM	NM	NM	NM	NM	NM	NM	NM	NM		
22	Norco	NM	NM	NM	NM	NM	NM	.23	56	114	NM	NM	NM	NM	NM	NM	NM	NM	NM	March Field	
23	Rubidoux	12	10.3	1	0	1	0	.27	113	172	.16	.0364	0	0	.02	.008	.0007	0	0	(Riverside)	205
23	Riverside	14	8.5	0	0	0	0	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		
24	Perris	NM	NM	NM	NM	NM	NM	.21	78	147	.14	.0322	0	0	NM	NM	NM	NM	NM		
25	Lake Elsinore	NM	NM	NM	NM	NM	NM	.24	62	121	NM	NM	NM	NM	NM	NM	NM	NM	NM		
28	Hemet	NM	NM	NM	NM	NM	NM	.19	21	77	NM	NM	NM	NM	NM	NM	NM	NM	NM		
29	Banning	NM	NM	NM	NM	NM	NM	.23	60	112	NM	NM	NM	NM	NM	NM	NM	NM	NM		
30	Palm Springs	6	2.9	0	0	0	0	.19	37	108	.09	.0239	0	0	NM	NM	NM	NM	NM		
30	Indio	NM	NM	NM	NM	NM	NM	.16	16	76	NM	NM	NM	NM	NM	NM	NM	NM	NM		
32	Upland	8	5.4	0	0	0	0	.32	97	146	.20	.0448	0	0	.03	.008	.0014	0	0	Norton AFB	
33	Ontario	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	(San Bernardino)	203
34	Fontana	7	5.8	0	0	0	0	.32	113	155	.18	.0363	0	0	.03	.006	.0005	0	0		
34	San Bernardino	11	8.1	0	0	0	0	.30	115	159	.18	.0409	0	0	.03	.006	.0006	0	0	Ontario	265
35	Redlands	NM	NM	NM	NM	NM	NM	.27	116	164	NM	NM	NM	NM	NM	NM	NM	NM	NM	Airport	
37	Crestline	NM	NM	NM	NM	NM	NM	.27	127	172	NM	NM	NM	NM	NM	NM	NM	NM	NM		

PPM - Parts by volume per million parts of air.
AAM - Annual Arithmetic Mean.
NM - Pollutant not monitored.
* - Less than 12 full months of data. May not be representative.
a) - The federal standard is annual arithmetic mean NO_2 greater than 0.0534 ppm.
b) - The federal standard is annual arithmetic mean SO_2 greater than 80 ug/m^3 (.03 ppm). No location exceeded the standard in 1989.
c) - The other federal (3-hour average > 0.50 PPM; 0.03 PPM, AAM) and state (1-hour > 0.25 PPM) standards were also not exceeded.
d) - Twenty-four hour average SO_2 ≥ 0.05 PPM with 1-hour Ozone ≥ 0.10 PPM, or with 24-hour TSP ≥ 100 ug/m^3.
e) - Visibility standard is less than 10 miles for hours with relative humidity less than 70% [illegible]

Figure III-1A

SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT
9150 Flair Drive
El Monte, CA 91731

LOS ANGLES, CA **CIVIC CENTER** **PACIFIC** **34° 03' N** **118° 14' W** **270 FT.** **1976**

Month	Temperatures °F: Normal: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	Normal Degree days Base 65 °F: Heating	Cooling	Precipitation in inches: Water equivalent: Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, ice pellets: Maximum monthly	Year	Maximum in 24 hrs.	Year	Relative humidity pct.: Hour 04 (Local time)	Hour 10	Hour 16	Hour 22	Wind: Mean speed m.p.h.	Prevailing direction	Fastest mile: Speed m.p.h.	Direction	Year	Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Mean number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility ¼ mile or less	Temperatures °F: Max. 90° and above	32° and below	Min. 32° and below	0° and below	Average station pressure mb: Elev. [illegible] mil
(a)				36			36				36			36		36		36		36	17	10	23	11	24	23	35	35		32	34	34	34	34	36	36	29	27	36	36	36	36		
J	66.5	46.6	56.7	93	1971	28	1949	268	10	3.00	14.94	1969	0.00	1976	6.11	1956	0.3	1949	0.3	1949	83	51	90	87	6.8	NE	49	W	1946	69	6.6	10	8	9	5	0	1	0	0	0	0	0	
F	67.6	48.5	58.1	91	1971	34	1949	207	14	2.77	12.42	1941	T	1964	4.02	1944	T	1951	T	1951	71	54	92	70	6.9	E	40	NW	1961	72	6.7	12	7	9	5	0	1	0	0	0	0	0	
M	68.6	49.8	59.2	96	1972	35	1976	190	10	2.19	8.14	1941	0.00	1959	3.41	1943	0.0		0.0		74	52	92	72	7.0	E	47	NW	1964	73	6.7	13	9	9	6	0	1	0	0	0	0	0	
A	70.5	52.9	61.7	99	1966	39	1975	126	25	1.27	6.02	1963	0.00	1973	2.05	1956	0.0		0.0		78	53	94	74	6.6	E	40	NW	1959	70	6.7	12	10	8	4	0	1	0	0	0	0	0	
M	73.2	56.1	64.7	102	1967	46	1964	60	51	0.13	1.43	1955	0.00	1970	1.07	1955	0.0		0.0		81	56	95	79	6.3	E	39	NW	1965	86	6.9	11	12	8	1	0	1	0	0	0	0	0	
J	76.9	59.5	68.0	106	1979	50	1953	25	115	0.05	0.32	1964	0.00	1975	0.32	1964	0.0		0.0		85	59	96	78	5.7	E	32	N	1949	69	6.3	14	10	6	1	0	*	1	1	0	0	0	
J	82.9	63.5	73.2	103	1959	54	1952	0	256	0.00	0.03	1969	0.00	1976	0.03	1969	0.0		0.0		84	54	93	79	5.4	E	21	N	1947	82	2.7	22	8	1	0	0	*	1	4	0	0	0	
A	83.7	64.4	74.1	103	1967	53	1949	0	282	0.04	0.39	1958	0.00	1975	0.38	1958	0.0		0.0		84	56	93	79	5.3	E	24	N	1949	83	2.6	22	8	1	0	0	*	1	4	0	0	0	
S	82.5	62.8	72.7	110	1955	51	1948	5	236	0.17	2.82	1976	0.00	1975	1.85	1976	0.0		0.0		78	52	94	76	5.3	E	27	NW	1941	79	3.0	16	9	5	1	0	*	1	5	0	0	0	
O	78.0	58.7	68.4	104	1958	41	1971	35	160	0.27	1.53	1941	0.00	1970	0.62	1941	0.0		0.0		76	55	96	74	5.7	E	48	W	1959	73	3.0	16	9	5	2	0	*	1	3	0	0	0	
N	73.2	52.1	62.7	100	1966	39	1976	113	44	2.02	9.66	1965	0.00	1975	4.07	1970	0.0		0.0		61	45	89	62	6.4	E	42	W	1946	74	3.7	17	7	6	3	0	*	1	1	0	0	0	
D	68.0	48.1	58.1	89	1958	32	1951	218	0	2.16	6.97	1971	T	1963	3.92	1965	T	1947	T	1947	62	45	90	62	6.6	NE	44	SE	1963	71	4.2	15	8	8	5	0	*	1	2	0	0	0	
					SEP		JAN					JAN		JUL		JAN		JAN		JAN									JAN													
YR	74.3	55.3	64.8	110	1959	28	1949	1249	1185	14.09	14.94	1969	0.00	1976	6.11	1956	0.3	1949	0.3	1949	75	53	93	72	6.2	W	49	N	1946	73	4.0	185	106	74	34	0	6	17	20	0	0	0	

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows: Maximum monthly precipitation 15.80 in December 1889; maximum precipitation in 24 hours 7.36 in December 1933; maximum monthly snowfall 2.0 in January 1932; maximum snowfall in 24 hours 2.0 in January 1932.

(a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
* Less than one half.
T Trace.

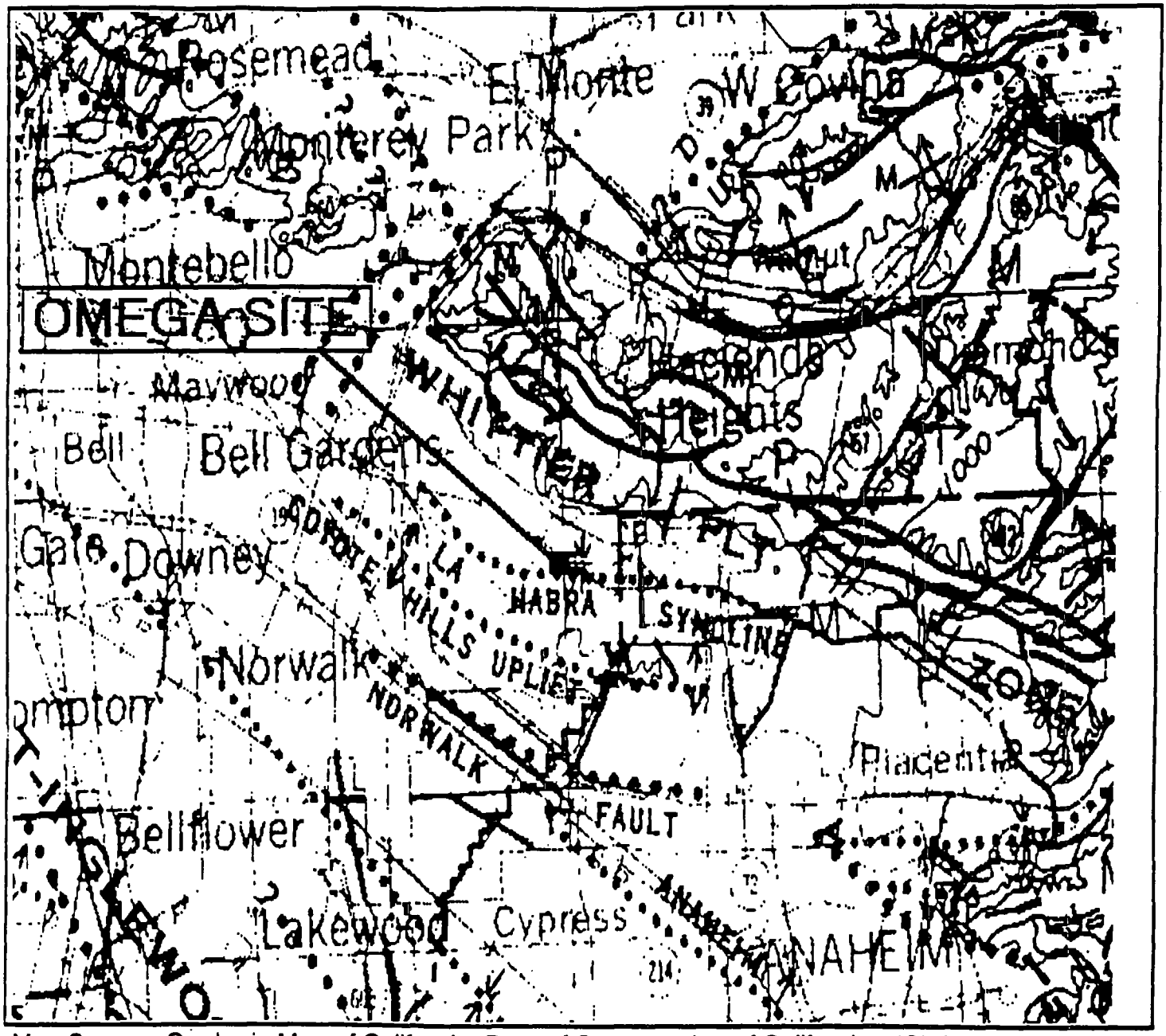
NORMALS - Based on record for the 1941-1970 period.
DATE OF AN EXTREME - The most recent in cases of multiple occurrence.
PREVAILING WIND DIRECTION - Record through 1963.
WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.
FASTEST MILE WIND - Speed is fastest observed 1-minute value when the direction is in tens of degrees.

$ Through 1963.

% Through 1964. The station did not operate 24 hours daily. Fog and thunderstorm data may be incomplete.

Figure III-C Climatological Summary

FIGURE III-2

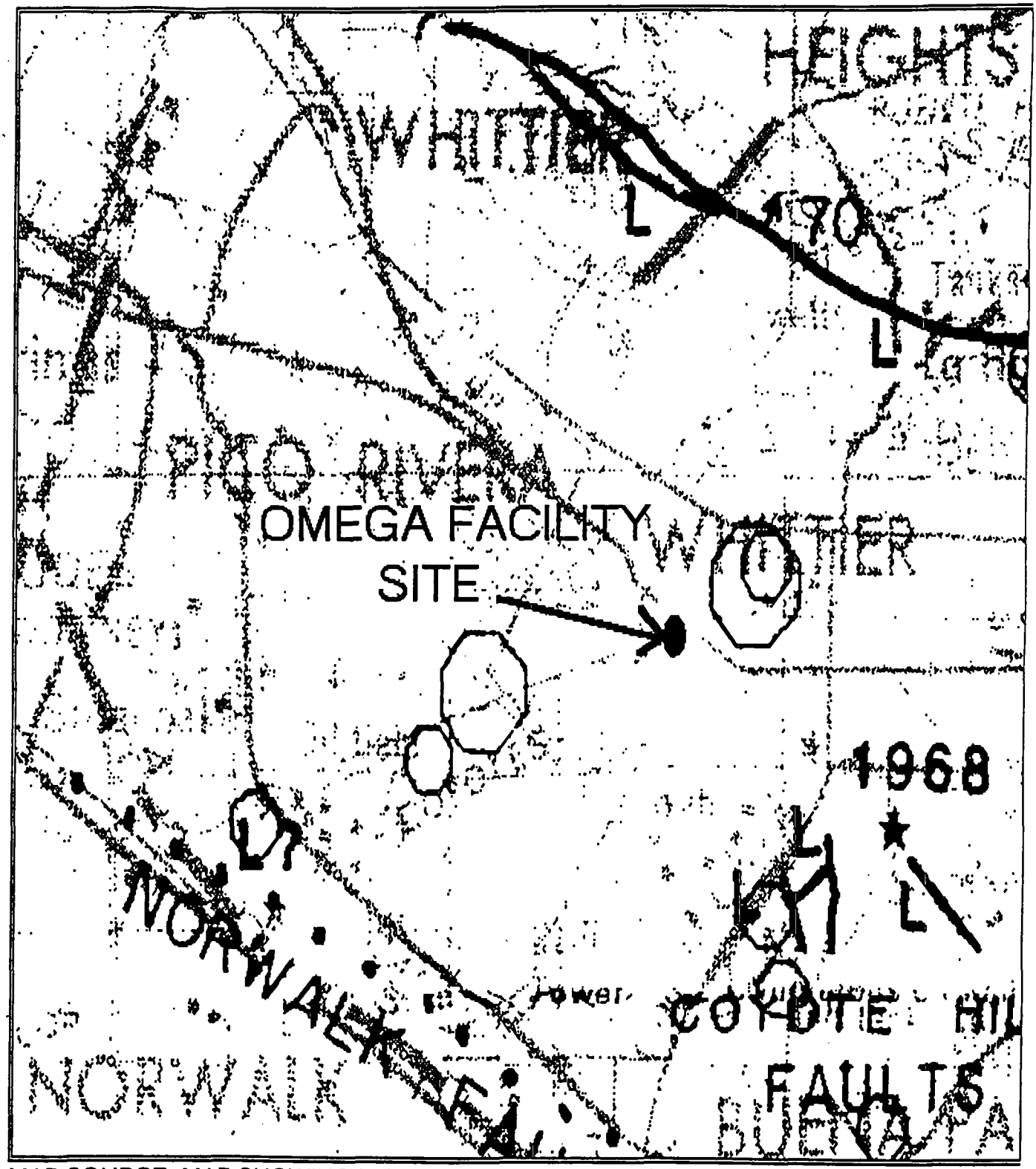


Map Source: Geologic Map of California, Dept of Conservation of California , 1977

Omega Whittier facility and its proximity to the Whittier Fault Line

<10 miles >

OMEGA RECOVERY SERVICES OPERATION PLAN PART B
FIGURE III-3



MAP SOURCE: MAP SHOWING LATE QUATERNARY FAULTS AND 1978-84 SEISMICITY OF THE LOS ANGLES REGION, CALIFORNIA" Interior U.S> Geological Survey, 1987

SCALE <----------2 MILES---------->

FIGURE III-4
WELL LOCATION MAP FOR THE WHITTIER SITE WITHIN ONE MILE RADIUS

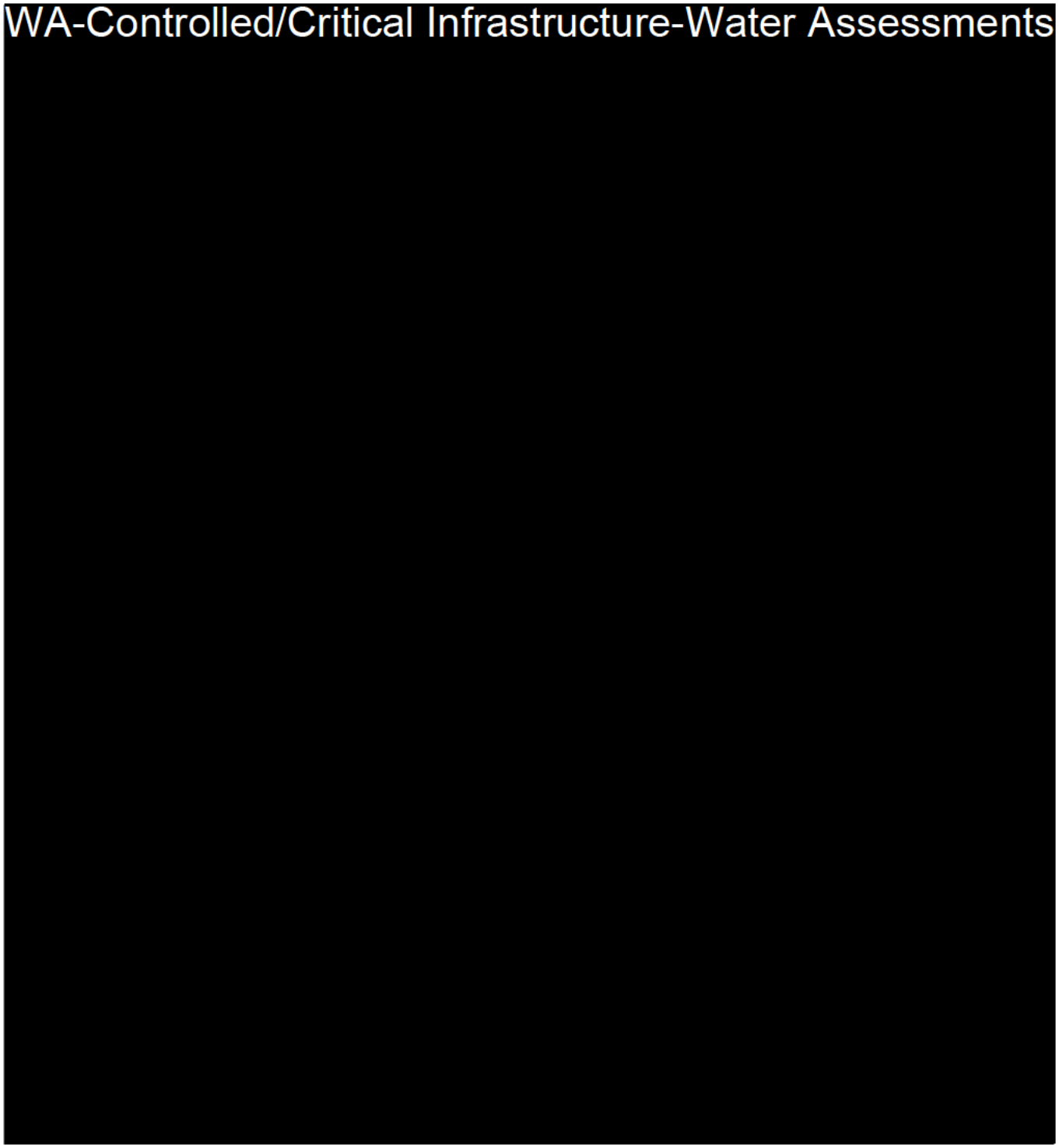
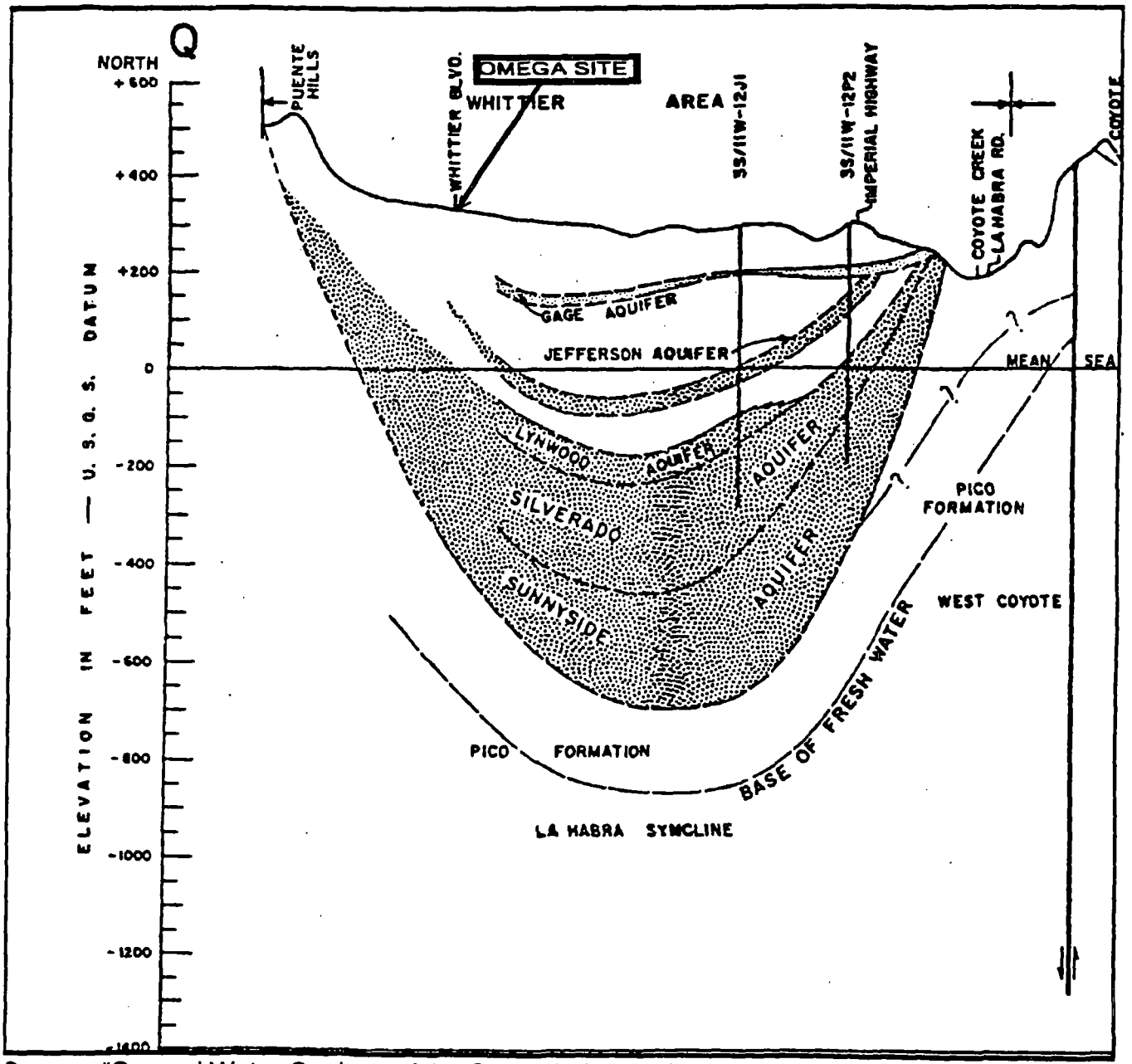


FIGURE III-5
GROUND WATER GEOLOGY UNDER THE WHITTIER SITE

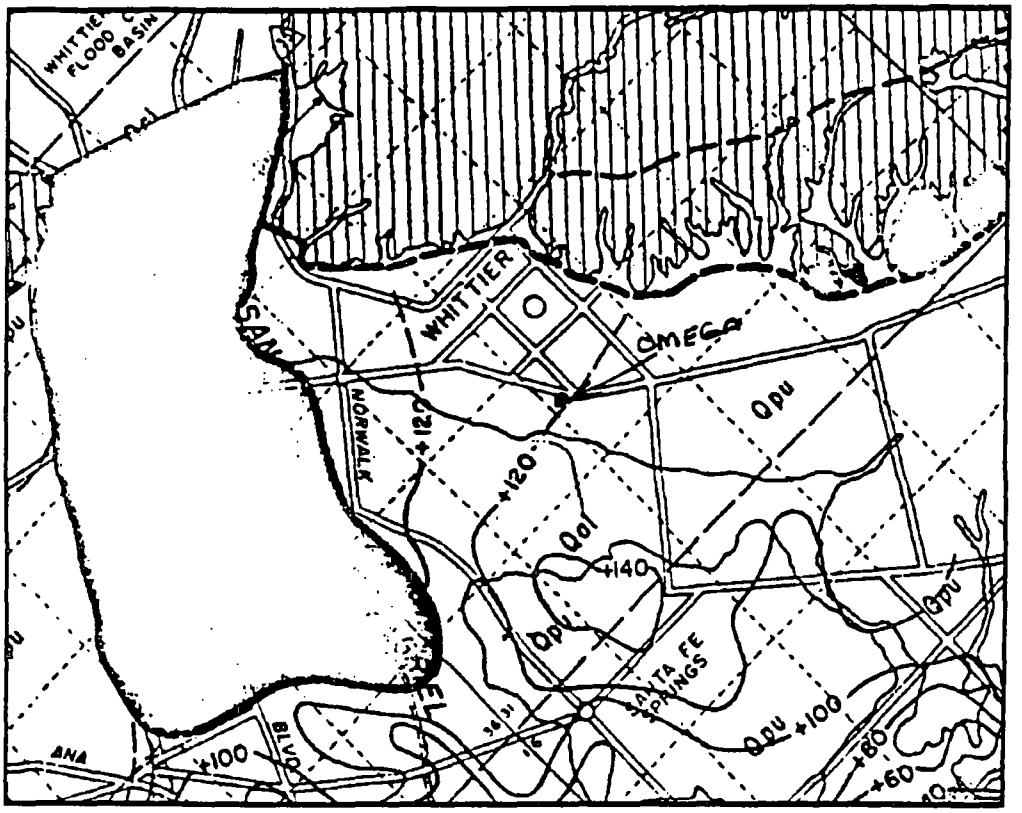


Source: "Ground Water Geology of the Coastal Plain of the Los Angeles County"

This displays the depth to the various ground water aquifiers near Omega's Whittier facility.

FIGURE III-6

LOCATION OF AQUIFIERS TO THE OMEGA WHITTIER FACILITY



Source: "Ground Water Geology of the Coastal Plain of the Los Angeles County"

This shows the location of the closest aquifier to Omega's Whittier facility. They are the aquifiers in the Lakewood Formation. This shows that the groundwater under the site is not directly connected hydraulicly to a aquifier used for drinking water.

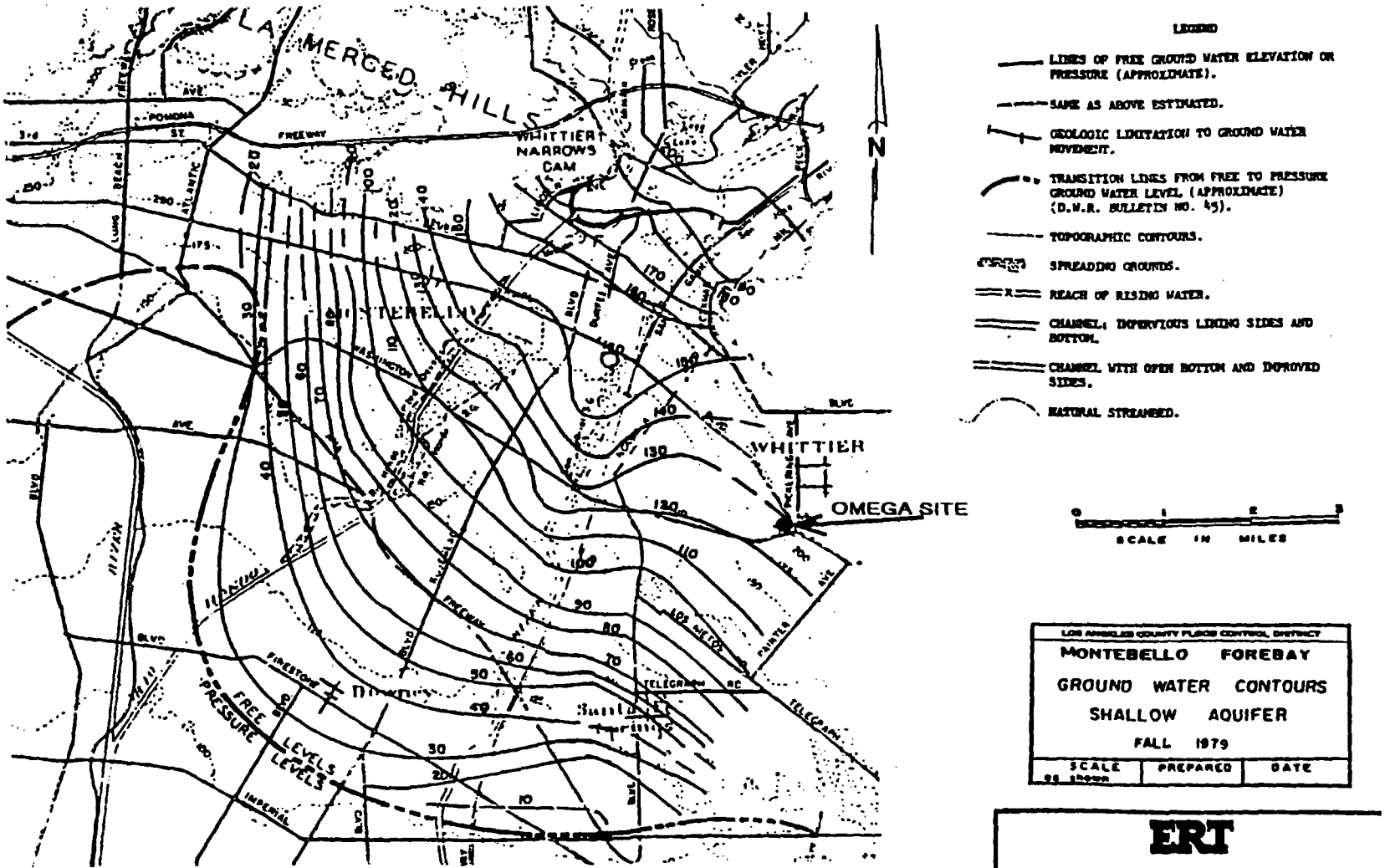
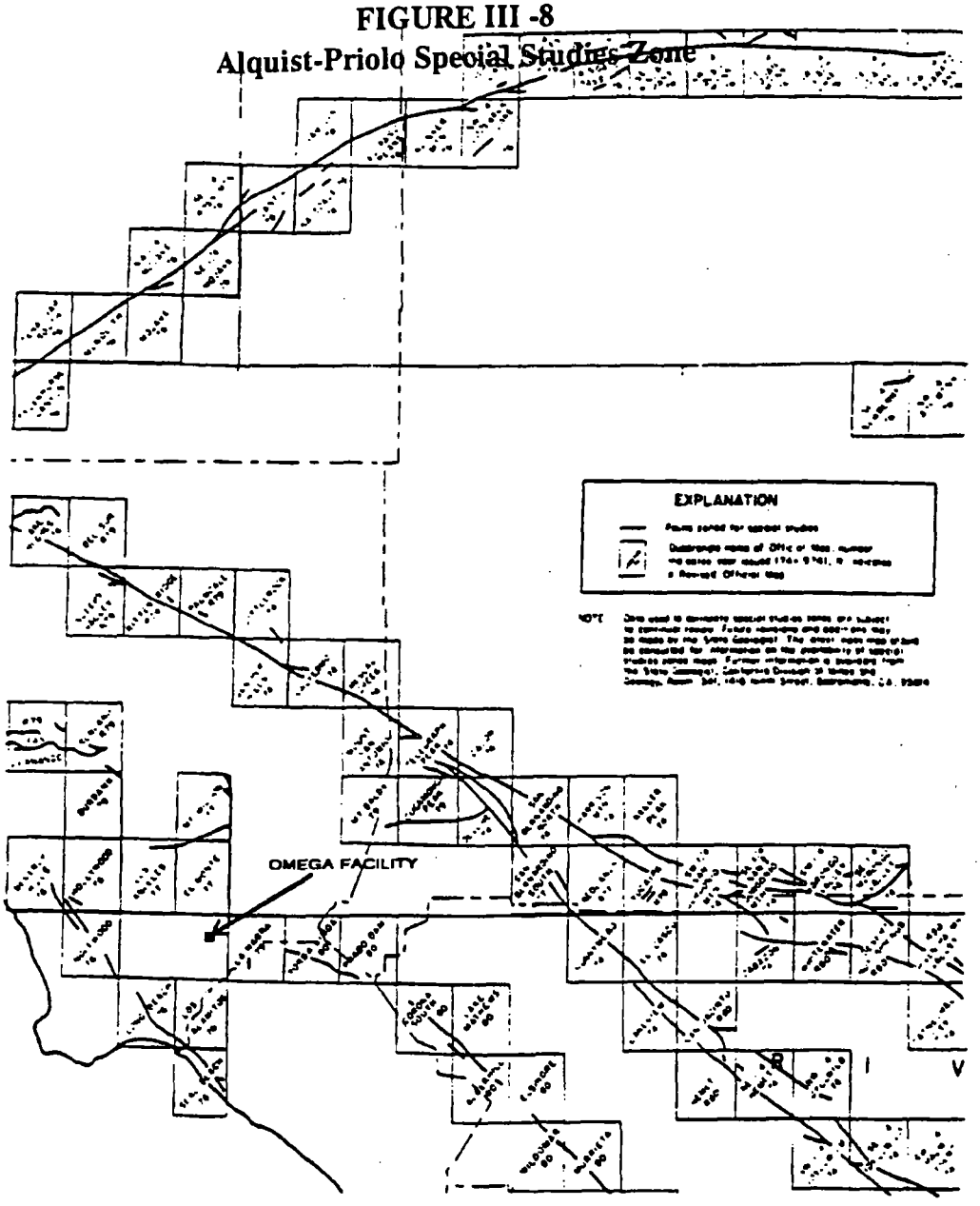


FIGURE III -7
Ground Water Contours Map

FIGURE III -8
Alquist-Priolo Special Studies Zone



Map Source: Department of Conservation Division of Mines and Geology 1986

SCALE IN MILES
0 20 40 60

FAULT-RUPTURE HAZARD ZONES IN CALIFORNIA

VI. MAJOR WASTE MANAGEMENT DEVICES USED AT THE FACILITY

There are several waste treatment units and equipment used at the OMEGA facility for the storage, recycling, treatment and transport of wastes. They are:

3,100 drum capacity Drum Storage Areas
31 waste storage/treatment tanks
3 Distillation Units
3 Thin Film Evaporation Unit
1 Reactor
1 Grinder
1 Liquid-Liquid Separation Unit

Omega has planned for expansion of the site to include additional treatment units and storage tanks. This expansion is depicted in Figure VI-1. . This expansion and improvement effort is intended to enhance the efficiency and operational capability of the facility to manage a variety of hazardous wastes as well as to provide additional safety and environmental equipment. The improvements that are planned include addition of storage/treatment tanks; new waste treatment systems both aqueous and non aqueous; and state of the art modernization of present operating equipment. Once the proposed changes have been implemented, the following waste management devices are expected to be in use at the facility:

Drum storage areas (see Section VI.A)
3,100 drum capacity Drum Storage Areas
15 bulk storage tanks for accumulation of drummed liquids

Bulk storage/treatment tanks (see Section VI.B)
40 waste storage/treatment tanks
1 Waste Water equalization tanks

Waste treatment systems (see Section VI.D)
6 Distillation Units
3 Thin Film Evaporation Units
1 Liquid-Liquid Separation Unit
1 Solids Grinding Unit
1 Reactor
1 Biological Treatment Unit
1 Neutralization and Precipitation Unit
1 Solids Filtering Unit

Each of the existing and proposed waste management devices, which constitute OMEGA's RCRA-permitted facilities, are described in the following sections.

A CONTAINERS AND CONTAINER STORAGE AREAS

Omega receives containerized wastes for treatment/ processing from generators as well as generating its own containerized wastes from intermediate steps of treatment processing. They are unloaded from trucks and processes and placed into a Drum Storage Areas located at various places on the facility (see Figure VI-2). The containerized wastes are segregated and stored according to hazard class as shown in Table VI-1.

From storage, containerized wastes are transported to the appropriate treatment area via forklifts equipped with drum handling attachments. Most empty drums are sent off-site to be reconditioned; drums that are unsalvageable are crushed and disposed of as hazardous waste.

Containers holding multi phase wastes:both liquid and solid wastes, such as paint, solvent, and oil sludges, are received at the site. The recyclable liquid phase of the waste, if any, is decanted into a treatment tank and/or other containers for further processing. The remaining solids are consolidated with other compatible solid wastes in other containers. In other instances, containers of non-recyclable wastes may be repackaged at the site into containers that are more suitable for charging to an incinerator. Containerized wastes managed in this manner are manifested off-site as a hazardous waste for incineration or other appropriate treatment/disposal method.

OMEGA proposes to construct a new Drum Storage Area in the new expansion area (see Figure VI-3). The proposed unit will provide designated areas for all container handling requirements, from unloading and sampling to storage, processing, and removal. A dedicated drum storage tank farm adjacent to the proposed storage pad will be used for the collection and consolidation of pumpable container contents to minimize required container movement activities.

A.1 Container Specifications Used for Storage

All containerized wastes received at the facility must be shipped in DOT-approved containers. Depending on the generator and the type of waste, the containers may be new, used, recycled, or reconditioned. These containers can be drums, both plastic and/or steel and/or cardboard. They may range in size from 5 gallon container to 2000 pound pressure cylinder. The wastes will be stored in their original containers or transferred to other containers or tanks for treatment or transfer to other off-site facilities.

Before containers are accepted, they are inspected for leaks, corrosion, severe rusting, bulging, structural defects, and damage. The container must be constructed of and/or lined with materials that are compatible with the waste stored therein so that the ability of the container to hold the waste is not impaired. Drums must be properly labeled and manifested before they will be accepted by an Omega driver or at the facility.

A.2 Existing Drum Storage Areas Containment System

The existing Drum Storage Areas, depicted in Figure VI-2, are a 50 foot by 220-foot concrete pad located on the west side of the facility and 100 foot by 160 foot pad on the east side. The individual pads are surrounded by retaining walls and slopes gradually downward from the north end to the south end. The walls and. berms totally surround the pads and prevent run-on to or run-off from the storage areas. . Up to 3,100 drums can be stored in these areas at any one time.

As depicted on the various figures, the individual containment areas for the drum storage are bounded by concrete curbing and walls, forming a concrete containment system having a minimum volume of 10% of the total liquid volume of all of the container stored in the units. The concrete base and curbing of the container storage areas will be free of cracks or gaps. Containment capacity calculations for all secondary containment enclosures are included in Appendix O and are summarized in Table VI-2. .

The concrete containment areas are coated to ensure that the base and waste stored therein are compatible. Information regarding the sealant and coatings used are in each containment area is provided in Appendix P.

The design of the each storage area promotes drainage of any free standing liquids away from the palletized containers in each area. Each area slopes to a blind sump. Containers stored on the pallets will not come into contact with free liquid within the areas. The step-shaped retaining walls that surround the Drum Storage Unit are constructed from 6-inch reinforced concrete and cinder block

Any liquid which accumulates in a containment area will be removed by absorbent material for small spills and in the case of rain or large spills will be removed by portable air driven diaphragm pumps equipped to pump the spill material. Small spills will be pumped to compatible drums or tanks depending on the size of the spill or rain condition.

The collected material will be analyzed to determine appropriate treatment of the collected waste.

In the past, accumulated rainfall that was shown to be non-contaminated by gas chromatography analysis will be released to appropriate sewer system. Omega's present policy is to capture and remove all precipitation from secondary containment areas and treat and dispose of it as a waste. Secondary containment precipitation liquids are pretreated and sewered in accordance with the terms and conditions of the LA County Sanitation District Sewer Permit. Waste spills or leaks that are collected in secondary containment areas are removed and treated as a hazardous waste.

Drums are positioned four to a pallet, three pallets high in rows which allow access for inspection. Aisle widths will be sufficient to allow visual inspection of labels and condition of containers.

The Container Storage Areas have been certified for its intended use by a registered engineer, as documented by the certification statement presented as Figure VI-4.

A.3 Containment System for Ignitable Waste.

Only compatible wastes are stored together see Figure VI-2. Ignitable wastes will be segregated from all other wastes. They are twenty-five feet from the property line as required by the Los Angeles County Fire Department (see Figure VI-5)

The containerized wastes will be stored according to EPA and DHS codes and compatibility (see compatibility charts in Waste Analysis Plan Appendix C).

A.4 Polychlorinated Biphenyls

Drums containing PCBs above regulated levels (i.e., > 50 ppm) are not accepted at the facility.

A.5 Proposed Drum Storage Area

OMEGA proposes to construct a new Drum Storage Area in the expansion site. The new unit will provide additional environmental safety due to its improved design/construction and because the central, location will provide additional buffering of wastes from off-site locations. The proposed unit will consist of a truck loading/unloading area, waste sampling area, drum storage area, drum processing area, and drum storage tanks. Drawings and an equipment list for the proposed Drum Storage Unit are included in Appendix D.I. See Figure VI-2 Area J and K.

The foundation of the drum unloading and sampling areas will be sloped gently to a non-discharging blind sump. The new expansion drum storage and processing areas will slope toward the blind sump. The sloped base will promote drainage and prevent contact between containers and standing liquids. Calculations that demonstrate the adequacy of secondary containment features are provided in Appendix O The base and wall interiors will be coated with a chemical-resistant epoxy-type coating to prevent waste migration in the event of a spill or leak. All of the wastes stored in these areas will segregated from incompatible wastes.

Storage Areas and conditions will be similar to Section A.2 and A.3.

Once in the sampling area, individual containers of waste will be sampled and analyzed in accordance with the facility's Waste Analysis Plan (see Appendix C). The layout of sampling lines within the sampling and analysis bay will provide convenient access to all of the containers for sampling, marking, and inspection. Subsequent to sampling and analysis, drums will be removed from the sampling area to the proper storage area, as determined from the generator's waste characterization and by OMEGA's analytical results. The containers will remain closed during storage except when it is necessary to add or remove waste.

When a sufficient number of containers of similar waste types have accumulated in storage, they will be transported to the drum processing area using forklifts. The processing area will contain the equipment necessary to transfer the contents of the containers to one of the drum storage tanks, including drum decant wands, stationary transfer pumps, manifolded pipelines, grounding connections, etc. After the containers are emptied, they will be placed in a designated area for off-site transport. Empty containers will be transferred by truck to a recycling/reconditioning facility, or crushed and loaded onto a truck for transport to a disposal facility.

TABLE VI-1
CONTAINERIZED WASTES SEGREGATION CHART

Ignitables, Solvents, Organics, and Organic-containing Materials

Storage Area: A # of Drums: 971 Drums

This area is designated for wastes which are ignitable (Flashpoint < 140 F.), halogenated and non-halogenated solvents, organic compounds, and aqueous wastes with organic compounds. Those classified as flammable will not be stored within 25 of the property line.The specific wastes included in this category are listed below:

Characteristic Wastes
D001, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Prouct, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-U004, U007 - U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Container Specifications: D.O.T. Specifications - 5, SA, 5B, 5C, 5M, 5K, 17C, 17E, 17F, 17H, 37P, 42B, 42D, 34,4BW260, 110A500W,4BA,4BW300

overpacks - 6D or 37M with inside specifications 2S, 2SL, or 2U

Storage Area B is 5,000 Gallon Tank Storage

TABLE VI-1 (Continued)
CONTAINERIZED WASTES SEGREGATION CHART

Solvents, organics, and Organic-containing Materials

Storage Area: C of Drums: 50 Drums

This area is designated for wastes which are not ignitable (Flashpoint > 140 F.) which includes solvents, organic compounds, and aqueous wastes with organic compounds. The specific wastes included in this category are listed below:

Characteristic Wastes
D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, FOOS, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Proucts, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-UOO4, U007 - U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Container Specifications: D.O.T. Specifications - 5, 5A, 5B, 5C, 5M, 5K, 17C, 17E, 17F, 17H, 37P, 42B, 42D, 34,4BW260, 110A500W,4BA,4BW300

OverPacks - 6D or 37M with inside specifications 2S, 2SL, or 2U

TABLE VI-1
CONTAINERIZED WASTES SEGREGATION CHART

Ignitables, Solvents, Organics, and Organic-containing Materials

Storage Area: D # of Drums: 840 Drums

This area is designated for wastes which are ignitable (Flashpoint < 140 F.), halogenated and non-halogenated solvents, organic compounds, and aqueous wastes with organic compounds. The specific wastes included in this category are listed below:

Characteristic Wastes
D001, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Prouct, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-U004, U007 - U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Container Specifications: D.O.T. Specifications - 5, SA, 5B, 5C, 5M, 5K, 17C, 17E, 17F, 17H, 37P, 42B, 42D, 34,4BW260, 110A500W,4BA,4BW300

overpacks - 6D or 37M with inside specifications 2S, 2SL, or 2U

Storage Area E is 10,000 Gallon Tank Storage Area

TABLE VI-1 (Continued)
CONTAINERIZED WASTES SEGREGATION CHART

Solvents, Organics, and Organic-containing Materials

Storage Area: F of Drums: 2112 Drums

This area is designated for wastes which are not ignitable (Flashpoint > 140 F.) which includes solvents, organic compounds, and aqueous wastes with organic compounds. Those classified as flammable material will not be stored within 50 feet of the property line. The specific wastes included in this category are listed below:

Characteristic Wastes
D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Proucts, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-UOO4, U007 - U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Container Specifications: D.O.T. Specifications - 5, 5A, 5B, 5C, 5M, 5K, 17C, 17E, 17F, 17H, 37P, 42B, 42D, 34,4BW260, 110A500W,4BA,4BW300

OverPacks - 6D or 37M with inside specifications 2S, 2SL, or 2U

Storage Areas G, H, I are Tank Storage Areas

TABLE VI-1 (Continued)
CONTAINERIZED WASTES SEGREGATION CHART

Caustic Wastes

Storage Area: K # of Drums: 120 Drums

This area is designated for wastes with a pH > 7.0. These materials include hydroxides of calcium, aluminum, sodium, potassium, etc., precipitated metal hydroxides, sludges, and aqueous materials containing cyanide, sulfide, and ammonia and aqueous wastes which, because of their pH, would contain unprecipitated heavy metals. The specific wastes to be stored in this area are listed below:

Characteristic Wastes
D002, D004, - D011

Wastes From Non-Specific Sources
F006 - F012, F019

Wastes From Specific Sources
K002 - K008, K031, K046, K048 - K052, K061, K062, K069, K071, K084,, K086, K100 - K102, K106

Discarded Chemical Products, Off-Specification Materials, and Spill Residues
P011, P012, U144 - U146, U246

Container Specifications: D.O.T. Specifications - 5, SA, 5B, 5C, 5M, 5K, 17C, 17E, 17F, 17H, 37P, 34,4BW260, 110A500W,4BA,4BW300

Overpacks - 6D or 37M with inside specifications 2S, 2SL, or 2U.

TABLE VI-1 (Continued)
CONTAINERIZED WASTES SEGREGATION CHART

Acidic Wastes

Storage Area: J # of Drums: 120 Drums

This area is designated for wastes with a pH < 7.0. These wastes included acids of various concentrations and mixtures such as sulfuric, nitric, hydrochloric, hydroflouric, and chromic acids, generated by various industrial processes. These mixtures may often contain heavy metals. The specific waste categories are listed below:

Characteristic wastes
D002, D004 - D011

Wastes from Non-Specific Sources
F006, F019

Wastes From Specific Sources
K002 - K008, K031, K048 - K052, K061, K062, K069, K084, K086,
K100 - K120, K106

Discarded Chemical Products, Off-Specification Materials, and Spill Residues
P011, P012, U144 - U146, U246

Container Specifications: D.O.T. Specifications - 5A, 5C Type 304 ELC or 347, 37P, 34, 42B. Chromic Acid Only - 5,5A, 5B, 17B.

Overpacks: 6D or 37M with inside specifications 2S, 2SL, or 2U.

TABLE VI-2

Containment Areas - Capacity

Area	Tank #/or # of Drums	Capacity Required (gal.)	Capacity Available (gal.)
A	(971 Drums)	5,341	66,473
B	Tanks 1,2,3,4,5	5,000	9,167
C	(50 Drums)	275	66,473 *
D	(840 Drums)	4,625	109,208**
E	Tanks A,B,C,D,E,F	10,000	18,475
F	(2112 Drums)	11,616	109,208**
G	Tanks 7 to 14	10,000	22,122
H	Tanks 15 to 19	10,000	13,127
I	Tanks 27 to 36	8,000	32,657
J	(120 Drums)	660	1,870
K	(120 Drums	660	1,870

* This Area C is combined with Area A because of the possibility of drainage to A.
** Areas D & F are combined into one combined capacity requirement.

B WASTE STORAGE AND TREATMENT TANKS

The purpose of this section is to provide information regarding the design, installation, and operation of the various tank systems that are presently used and proposed to be used at Omega.

Design Standards and Descriptions

Table VI-7 and VI-8 and the tank specification sheets in Appendix D contain a variety of information for each tank. The design standards used are provided on the tank specification sheets. All tanks will be designed and anchored to meet the building standards for their us in seismic zone 4.

Waste Characteristics for Storage Tanks are listed in Table VI-3A.
Ancillary equipment will be designed according to the American National Standard Code for Pressure Piping, Chemical , Plant, and Petroleum Refinery Piping, (ANSI B31.3)

The characteristics of the wastes that will be placed in each tank are provided in Table VI-3 and VI-4.

Corrosion Considerations

The external shells of the tanks and any associated metal or material of construction or components of the tanks will not be in contact with soil or standing water. Therefore, the requirements of 40 CFR 264.192 (a)(3) (corrosion expert assessment) are not applicable.

Visual Inspections for Filling

All tanks greater than 2,000 gallon have independent cat walks allowing visual inspection of the interior to determine level of tank and remaining capacity during unloading and filling.

Omega presently uses thirty-one tanks ranging in capacity from 250 to 10,000 gallons for the storage and treatment of hazardous and non hazardous wastes and products.

The new expansion tanks will increase operational and improve environmental controls efficiencies and, because they will be provided with vapor collection systems, will result in the reduction of air emissions from tank-loading and unloading operations. The following sections describe the existing and proposed facility waste storage/ treatment tanks.

B.1 Existing Waste Storage/Treatment Tanks

The tanks that presently are used to store and treat hazardous wastes are depicted in Figure II-11 and described on Table VI-3. These tanks serve four primary functions:

1) treatment of wastes by settling and physical separation in tanks,
2) temporary storage of separated aqueous waste fractions or contaminated solvent products,
3) blending of solvents, still bottoms, paint pigments, etc. to meet supplemental fuel specifications,
4) accumulation of processing wastes.
5) Storage of finished products available for sale.

Most of the wastes held in facility storage and processing tanks generally are classified as Class 1, Class 11, Class IIIA, Non Flammable Gases (CFC refrigerants) or halogenated solvents.

The following tank descriptions apply to all tanks used for the storage, treatment, and blending of incoming wastes. All tanks are located aboveground and are constructed of carbon or stainless steel. Each tank is painted with a protective coating to minimize corrosion unless it is stainless. Tank liners are not required since the compatibility of carbon and stainless steel is considered to be "good" with a wide range of organic solvents (see Table VI-2). Fluid level control gauges soon will be installed on all tanks. Each tank is piped separately to preclude inadvertent waste mixing.

TABLE VI-3
Existing Storage/Treatment Tanks Omega Facility

Tank I.D	.Type	Volume (gal)	Material Handled	Purpose
1	Vertical	5,000	Solvent/Fuel waste	Storage
2	Vertical	5,000	Solvent/Fuel waste	Storage
3	Vertical	5,000	Solvent/Fuel waste	Storage
4	Vertical	5,000	Solvent/Fuel waste	Storage
5	Vertical	5,000	Solvent/Fuel waste	Storage
Heidi	Horizontal	3,500	CFC refrigerant	Storage
Jenny	Horizontal	5,500	CFC refrigerant	Storage
Farah	Horizontal	750	CFC solvent	Storage
Racquel	Horizontal	750	CFC solvent	Storage
Carrie	Vertical	2,000	Product/Waste	Storage
Connie	Vertical	2,000	Product/Waste	Storage
Elaine	Vertical	2,000	Product/Waste	Storage
Sandee	Vertical	2,000	Product/Waste	Storage
Sheila	Vertical	1,200	Liquid Waste	Storage
Peggy	Vertical	950	Liquid Waste	Storage
Cindy	Vertical	1,100	Waste/Product	Storage
Amy	Vertical	500	Waste/Product	Storage
Loudy	Vertical	500	Waste/Product	Storage
Linda	Vertical	500	Waste/Product	Storage
Diane	Vertical	500	Waste/Product	Storage
Susan	Vertical	500	Waste/Product	Storage
A	Vertical	10,000	Product/Waste	Storage
B	Vertical	10,000	Product/Waste	Storage
C	Vertical	10,000	Product/Waste	Storage
D	Vertical	10,000	Product/Waste	Storage
E	Vertical	10,000	Product/Waste	Storage
F	Vertical	10,000	Product/Waste	Storage

No specific waste designations are assigned to a tank, because all of the wastes stored in the tanks are compatible with each other and with the tank material of construction (i.e., carbon steel). Tanks are marked by identification number or name, National Fire Protection Association (NFPA) hazard designation, and, where appropriate, EPA waste designation (i.e., F001-F 005). The tank contents at any given time are described on a blackboard chart maintained in the laboratory. Facility tanks have been approved for their intended use by a egistered engineer, as documented by the certification statement presented as Certification by Registered Engineer Figure VI-6.

Table VI-3A

Waste Characteristics For Storage Tanks

Tank(s) 1 to 5; A to F,
Waste Description
This tanks are designated for wastes which are ignitable (Flashpoint < 140 F.), halogenated and non-halogenated solvents, organic compounds, and aqueous wastes with organic compounds. The specific wastes included in this category are listed below:

Characteristic Wastes
D001, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Products, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-U004, U007 -U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 ,U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Tank(s) Heidi, Jenny, CFC 1 to 4
Waste Description

This tanks are designated for wastes which are can be liquids under pressure. They are primarily Chlorofluorocarbons which can have ignitable (Flashpoint < 140 F.), halogenated and non-halogenated solvents, organic compounds, and aqueous wastes with organic compounds. The specific wastes included in this category are listed below:

Characteristic Wastes
D001, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Discarded Chemical Proucts, Off-Specification Materials, and Spill Residues
U044, U075,U121,U208,U209,U210,U226,U080,U228

All facility tanks are installed on concrete foundation pads or concrete encased legs that have sufficient bearing capacities to support the fully loaded tanks. The walls and dikes that surround individual process areas provide secondary containment for the waste storage/process tanks, as discussed in Appendix O. Containment walls also prevent run-on from entering a tank process area. After a rainfall event, the contained precipitation is removed by pumps for proper disposal.

Transfer operations to and from a tank or from a tank to a treatment unit are performed using pumps and flexible hoses or dedicated stainless steel pipes ASME schedule 40. Pumping rates depend on the type of chemical involved and whether the waste is being pumped from drums or trucks. During transfer operations, Omega employees monitor liquid levels to ensure that the tank/treatment unit is not being overfilled.

All tanks and associated secondary containment areas are inspected daily for signs of leakage or structural damage/deterioration. Inspection elements, described in the Inspection Plan (see Appendix E), include gauges, valves, piping, vents, seams, legs, leaks, containment walls, and areas adjacent to the tanks.

High and low level alarms will be provided as depicted on the drawings included in Appendix D.I. A tank data sheet for the storage tanks is provided in Appendix D.I.

Five 5,000-gallon and six 10,000-gallon treatment tanks are in use at the facility to process the various solvent waste streams prior to distillation (see Table VI-3). These atmospheric tanks are steel welded with an attached weak shell roof. Tanks are designed to conform with NFPA and - Underwriter - Laboratories (UL) standards and specifications so that they safely retain their contents under operating conditions.
Specifications for the 5,000-gallon processing tanks, as shown in Figure VI-7, specifications for the 10,000 gallon processing tanks, as shown in Figure VI-8 are as follows:

93-inch outer diameter
145-inch shell length cone bottom
1/4-inch hot-rolled carbon steel throughout
18-inch diameter manhole
4-inch special vent connection
H-beam legs
Shop prime, red oxide coating
Air and soap bubble tested for leaks.

Compatible and physically similar solvent wastes are pumped into a processing tank from drums or bulk liquid vehicles, where solids and semi-solids settle out and waste fractions separate according to their densities. After a sufficient time has elapsed to allow for the completion of these physical treatment processes,different waste fractions will be drawn off for recycling via processing or for incineration or other means of treatment/disposal (aqueous fraction and tank bottoms).

Solvent wastes destined for use as supplemental fuels are pumped into one of the blending tanks using grinding and particle-sizing pumps. Tank contents are blended and particulates are kept in suspension by the use of pumps to agitate waste material.

After the material has been blended sufficiently to meet the viscosity requirement, it is pumped directly into tank trucks for off-site use as a supplemental fuel. One criterion the blended product must meet is the viscosity requirement of 100 centipoise. This typically is accomplished by blending a flammable sludge consisting of still bottoms, residues, and resinous materials with dirty, low yield lacquer thinner. (The lacquer thinner waste will have a concentration less than 55%, the point below which it is considered uneconomical to reclaim.)

Vapor Recovery

The vapor recovery line is connected-- to each processing tank with a 2-inch - fitting. Thus, air that is expelled during the filling of the blending tank is recycled to displace the wastes that are discharged from the processing tanks. A 3-inch in-line breathing vent allows for air breathing to prevent over- or under pressurization of the tanks. .

B.2 Proposed Waste Storage/Treatment Tanks

Design specifications for the proposed waste storage/treatment tanks are provided on the tank data sheet included in Appendix D.3. A Design Assessment Report and tank certification statement is provided in Figure VI-10. Each tank will be mounted on externally attached support legs which will be secured directly to the foundation or to a raised pad, in accordance with installation procedures described in Appendix D.3. Three feet of clearance will be provided under each tank for associated piping and pumps and to prevent the tanks from contacting spilled or leaking waste material.1s. .

A corrosion allowance of 0.14 inch will apply for the purpose of tank integrity assessment, based on the following source:

From Welded Steel Tanks for Oil Storage, API Standard 650, Appendix A, Seventh Edition, November 1980.

Corrosion Allowance = 0.14 inches

All storage/treatment tanks will be constructed to API 650 standards from A285 Grade C steel plate or equivalent. Liners will not be required because carbon steel has been demonstrated to be compatible with the various types of solvents and solvent mixtures that are received at the facility (see Table VI-2). In general, carbon or stainless steel is the material of choice for the handling and storage of organic compounds. Although several solvents have specific gravities of less than 1.0, the specific gravities of certain halogenated solvents may range up to 1.5. Tank design and corrosion allowance calculations were based on an expected maximum waste specific gravity of 1.5. Based on OMEGA's and the design engineer's prior experience, the proposed tanks have an expected life of approximately 20 years.

Each storage/treatment tank will have a pressure relief valve which vents through an emissions control system to the atmosphere (see Figure VI-9 Proposed Specifications for 10,000 Gallon Tanks). The venting will allow the tanks to be operated at ambient or near ambient pressure. Each waste storage/treatment tank also will be equipped with an emergency 3-way relief valve to provide both pressure and vacuum relief in the event of failure of the primary relief valve. Electrical grounding for all new tanks and equipment will be incorporated in the plant electrical upgrade project.

All piping used for processing liquid and transferring finished products will be constructed of carbon or stainless steel with welded fittings and 150# rated flanges. The foundation for the tanks will be constructed by grading and compacting the subfoundation soil, installing steel reinforcing bars, and pouring a minimum of 6 inches of concrete to design specifications (see Appendix D.3). The foundation will be desi gned and constructed to support the weight of the tanks and their contents and in accordance with applicable seismic standards .

Normal operations will provide for the use of smaller process feed pumps to transfer wastes between tanks or to pump wastes to the waste treatment units. Due to manifolding, the truck unloading pumps also can back up the process feed pumps. The same manifolding system will allow for tank recirculation.

Each waste storage/treatment tank will have a separate manifold waste feed and piping system. The waste will be pumped from the truck through a liquid waste filter and various valves into the waste storage/treatment tank. All valves will remain in the closed position unless waste transfer operations are taking place. Pressure indicators will be provided on either side of the portable filter to indicate when the filter should be taken out of operation for cleaning. There also will be a pressure indicator downstream from each transfer pump to monitor its operation. Bottom drain valves will enable the contents of each tank to be sampled or emptied into a vacuum truck, if necessary.

Each waste storage/treatment tank will have a level indicator with high and low level alarms. Approximately once a month, tank level indicators will be calibrated with manual measurements using a dipstick. There also will be a high level switch on each tank that will shut off all pumps to the tank.

Secondary containment will be provided for tank areas by means of below grade, sealed concrete foundations and concrete sidewalls. The foundation will be sloped to a trench that directs incident precipitation and waste leaks/spills to a blind sump in the containment area. Curbs and grading away from the containment areas will prevent run-on to the process area. The secondary containment capacity will meet applicable regulatory requirements, as demonstrated by the calculations included in Appendix O.

The waste storage/treatment tanks will be elevated by means of external support legs that are protected by a fire retardant covering. The elevation of the tanks will prevent their contact with standing liquids. The use of a concrete sealant material that is compatible with organic compounds and daily inspections of the containment area will ensure the system is impervious, free from significant cracks, and capable of containing any spills, leaks, or precipitation until they can be collected and removed.

C UNDERGROUND TANKS

No underground waste tanks are in. operation at the facility, nor are any proposed as part of the facility upgrade. Therefore, the information requirements of this section are not applicable.

TABLE VI-4
Proposed Storage/Treatment Tanks Omega Facility

Tank I.D	Type	Volume (gal)	Material Handled	Purpose
S7	Vertical	10,000	Solvent/Fuel waste	Storage
S8	Vertical	10,000	Solvent/Fuel waste	Storage
S9	Vertical	10,000	Solvent/Fuel waste	Storage
S10	Vertical	10,000	Solvent/Fuel waste	Storage
S11	Vertical	10,000	Solvent/Fuel waste	Storage
S12	Vertical	10,000	Solvent/Fuel waste	Storage
S13	Vertical	10,000	Solvent/Fuel waste	Storage
S14	Vertical	10,000	Solvent/Fuel waste	Storage
S15	Vertical	10,000	Solvent/Fuel waste	Storage
S16	Vertical	10,000	Solvent/Fuel waste	Storage
S17	Vertical	10,000	Solvent/Fuel waste	Storage
S18	Vertical	10,000	Solvent/Fuel waste	Storage
S19	Vertical	10,000	Solvent/Fuel waste	Storage
S20	Vertical	750	Solvent/Fuel waste	Storage
S21	Vertical	750	Solvent/Fuel waste	Storage
S22	Vertical	750	Solvent/Fuel waste	Storage
S23	Vertical	750	Solvent/Fuel waste	Storage
S24	Vertical	500	Solvent/Fuel waste	Storage
S25	Vertical	500	Solvent/Fuel waste	Storage
S26	Vertical	500	Solvent/Fuel waste	Storage
P1	Vertical	1,500	Product/ waste	Storage
P2	Vertical	1,500	Product/ waste	Storage
P3	Vertical	1,500	Product/ waste	Storage
P4	Vertical	1,500	Product/ waste	Storage
P5	Vertical	1,500	Product/ waste	Storage
A27	Vertical	8,000	Aqueous waste	Storage
A28	Vertical	8,000	Aqueous waste	Storage
A29	Vertical	8,000	Aqueous waste	Storage
A30	Vertical	8,000	Aqueous waste	Storage
A31	Vertical	8,000	Aqueous waste	Storage
A32	Vertical	8,000	Aqueous waste	Storage
A33	Vertical	8,000	Aqueous waste	Storage
A34	Vertical	8,000	Aqueous waste	Storage
A35	Vertical	8,000	Aqueous waste	Storage
A36	Vertical	8,000	Aqueous waste	Storage

Table VI-4A

Waste Characteristics For Storage Tanks

Tank(s) 7 to 19 Waste Description

This tanks are designated for wastes which are ignitable (Flashpoint < 140 F.), halogenated and non-halogenated solvents, organic compounds, and aqueous wastes with organic compounds. The specific wastes included in this category are listed below:

Characteristic Wastes
D001, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021,D022, D023, D024, D025, D026, DO28, D029, D035, D037, D038, D039, D040, D043

Wastes From Non-Specific Sources
F001, F002, F003, F004, F005, F024

Wastes From Specific Sources
K001, K009,K010 - K030, K032 - K043, K060, K073, K083, K085, K086,K093 - K099, K103 - K105

Discarded Chemical Products, Off-Specification Materials, and Spill Residues
P004,P022, P037, P048, P050, P051, P059, U001-U004, U007 - U009,U019, U020, U024 - U028, U030 - U032, U034, U036, U037,U040, U042, U044, U045, U047 - U049, U051, U052, U054 U058,U060, U061, U068 - U072, U075 - U084, U088, U101, U104, U105,U107, U108, U110 - U113, U115, U117, U118, U121 -Ul25, U127,U129 - U132, U139, U140, U147, U149, U150, U154, U155, U159,U161, U162, U165, U169, U170, U181, U182, U187, U188, U190,U196, U210, U202, U207, U208, U209 - U213, U219 -U221, U224,U234, U239, U240, U244, U257

Tank(s) 27 to 31 Waste Description

These tanks are designated for wastes with a pH < 7.0. These wastes included acids of various concentrations and mixtures such as sulfuric, nitric, hydrochloric, hydroflouric, and chromic acids, generated by various industrial processes. These mixtures may often contain heavy metals. The specific waste categories are listed below:

Acidic waste which may be corrosive in nature (pH less than or equal to two (2). Typical examples include waste sulfuric acid (25% max.) and waste hydrochloric acid (18% max.). The wastes may be toxic but will not be ignitable.

Characteristic wastes
D002, D004 - D011

Wastes from Non-Specific Sources
F006 -F012,F019

Wastes From Specific Sources
K002 - K008, K031, K046,K048 - K052, K061, K062, K069,K071,K084, K086, K100 - K102, K106

Discarded Chemical Products, Off-Specification Materials, and Spill Residues

P011, P012, U144 - U146, U246

Table VI-4A (continued)

Waste Characteristics For Storage Tanks

Tank(s) 32 to 36
Waste Description

This area is designated for wastes with a pH > 7.0. These materials include hydroxides of calcium, aluminum, sodium, potassium, etc., precipitated metal hydroxides, sludges, and aqueous materials containing cyanide, sulfide, and ammonia and aqueous wastes which, because of their pH, would contain unprecipitated heavy metals. The specific wastes to be stored in this area are listed below:

Alkaline aqueous waste. Small amounts of metals and organic compounds may be present. The pH of the waste will be between seven (7) and 14.

Characteristic wastes
D002, D004 - D011

Wastes from Non-Specific Sources
F006 -F012,F019

Wastes From Specific Sources
K002 - K008, K031, K046,K048 - K052, K061, K062, K069,K071,K084, K086, K100 - K102, K106

Discarded Chemical Products. Off-Specification Materials, and Spill Residues
P011, P012, U144 - U146, U246

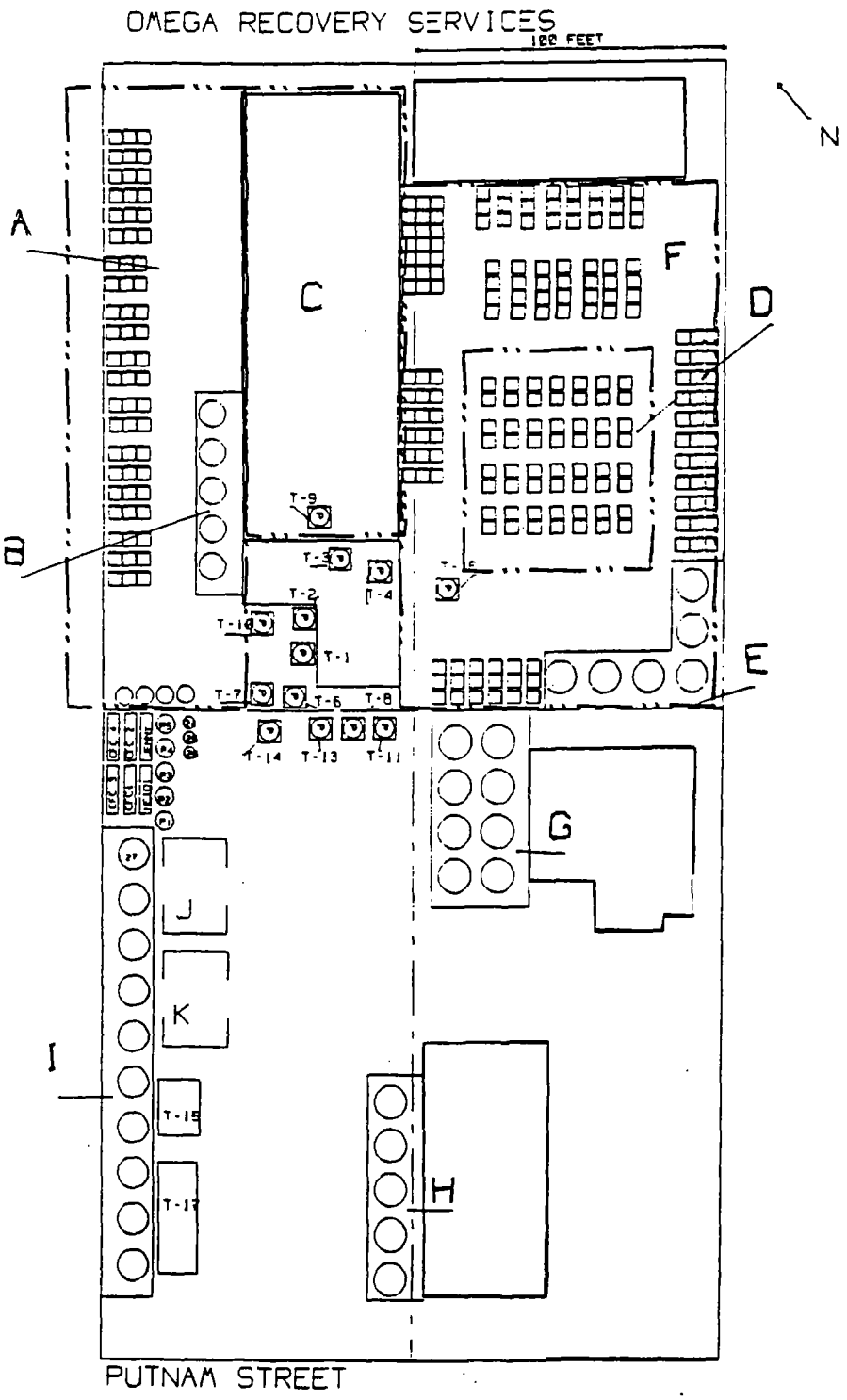
PROP-C-Controlled/Proprietary

PROP-C-Controlled/Proprietary

PROP-C-Controlled/Proprietary

[redacted]

FIGURE VI-2



DRUM AND TANK STORAGE LOCATIONS

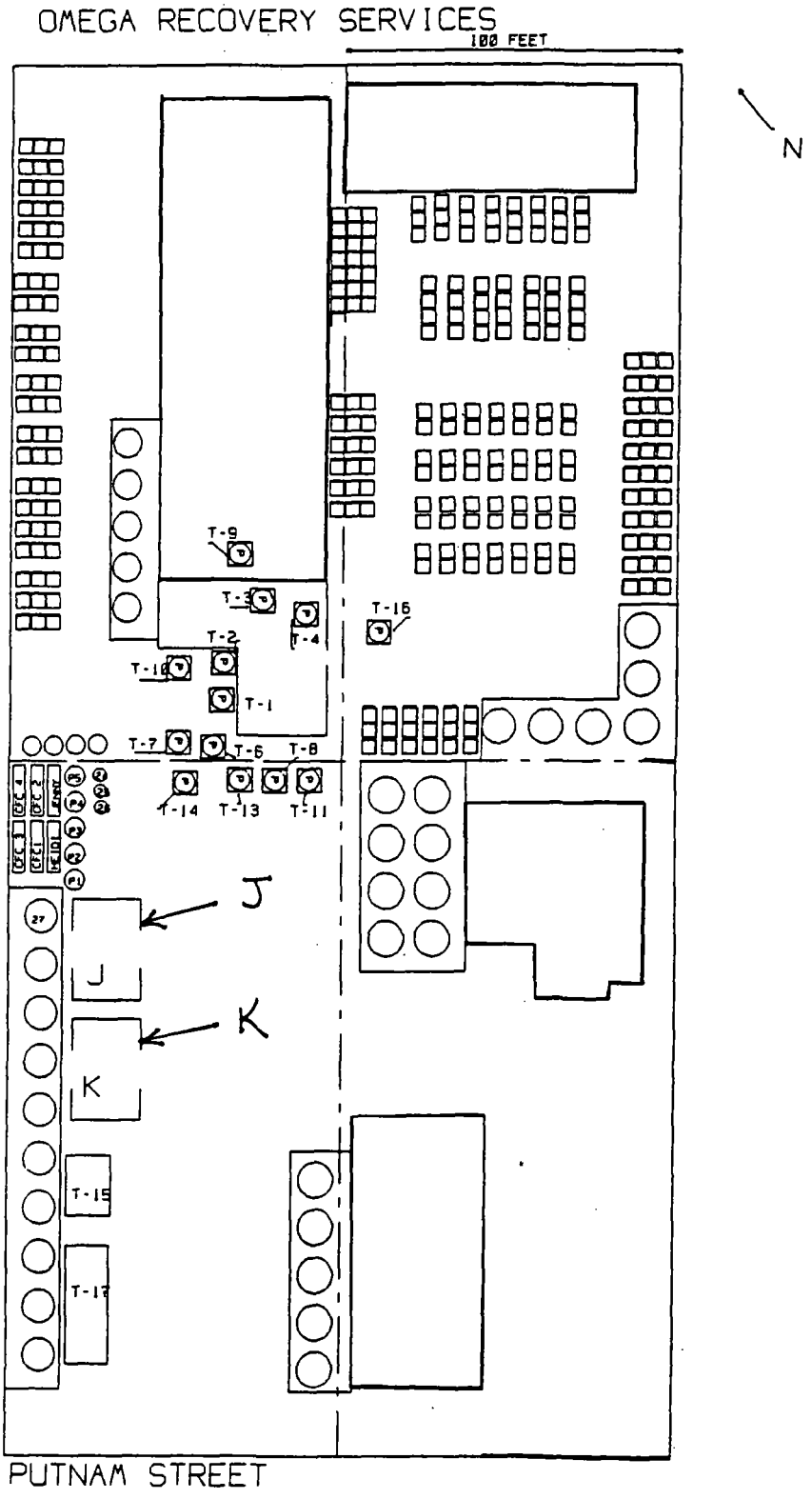


FIGURE VI-3 Proposed New Drum Storage Areas

Figure VI-4 Certification of Compliance for Container Storage Areas

The design and construction of the container storage areas, appurtenant structures, and containers located at Omega Recovery Services, 12504 E. Whittier Blvd, Whittier, California 90602, EPA ID# CAD042245001 are certified to be in compliance with the California Department of Health Services regulations for the intended uses.

Malcolm S. Jones Jr.

Registration No. C022725

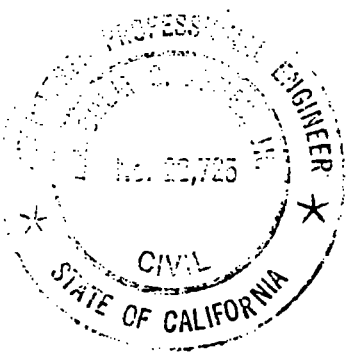


Figure VI-4A Certification of Compliance for Proposed Container Storage Areas

The design and construction of the proposed container storage areas, appurtenant structures, and containers located at Omega Recovery Services, 12504 E. Whittier Blvd, Whittier, California 90602, EPA ID# CAD042245001 are certified to be in compliance with the California Department of Health Services regulations for the intended uses.

Malcolm S. Jones Jr.

Registration No. C022725

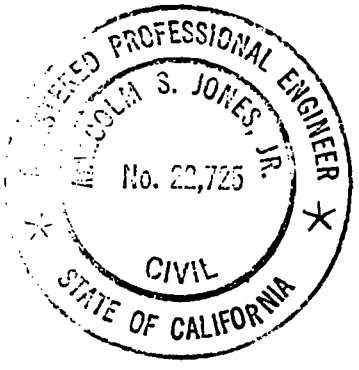


Figure VI-5 Los Angeles County Fire Department Storage Requirements

Because these are published rules in the Fire Code you are referred to Figure XI-2 Los Angeles County Hazardous Materials Permit Plan which details the plan submitted to the LACFD for the storage and of hazardous material.

Figure VI-6 Certification of Compliance for Tank Storage Areas

The design and construction of the tank storage areas, appurtenant structures located at Omega Recovery Services, 12504 E. Whittier Blvd, Whittier, California 90602, EPA ID# CAD042245001 are certified to be in compliance with the California Department of Health Services regulations for the intended uses.

Malcolm S. Jones Jr

Registration No. C022725

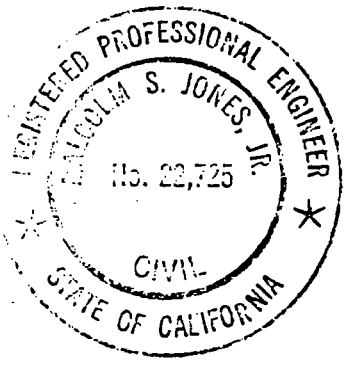


Figure VI-6A Certification of Compliance for Proposed Tank Storage Areas

The design and construction of the proposed tank storage areas, appurtenant structures located at Omega Recovery Services, 12504 E. Whittier Blvd, Whittier, California 90602, EPA ID# CAD042245001 are certified to be in compliance with the California Department of Health Services regulations for the intended uses.

Malcolm S. Jones Jr.

Registration No. C022725

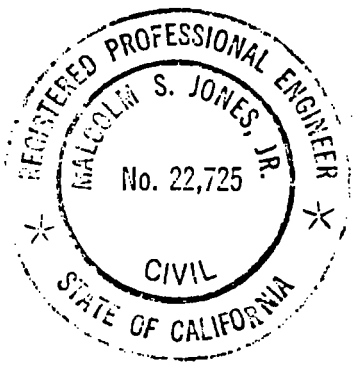


FIGURE VI-7
Drawing of Existing 5,000 Gallon Tanks

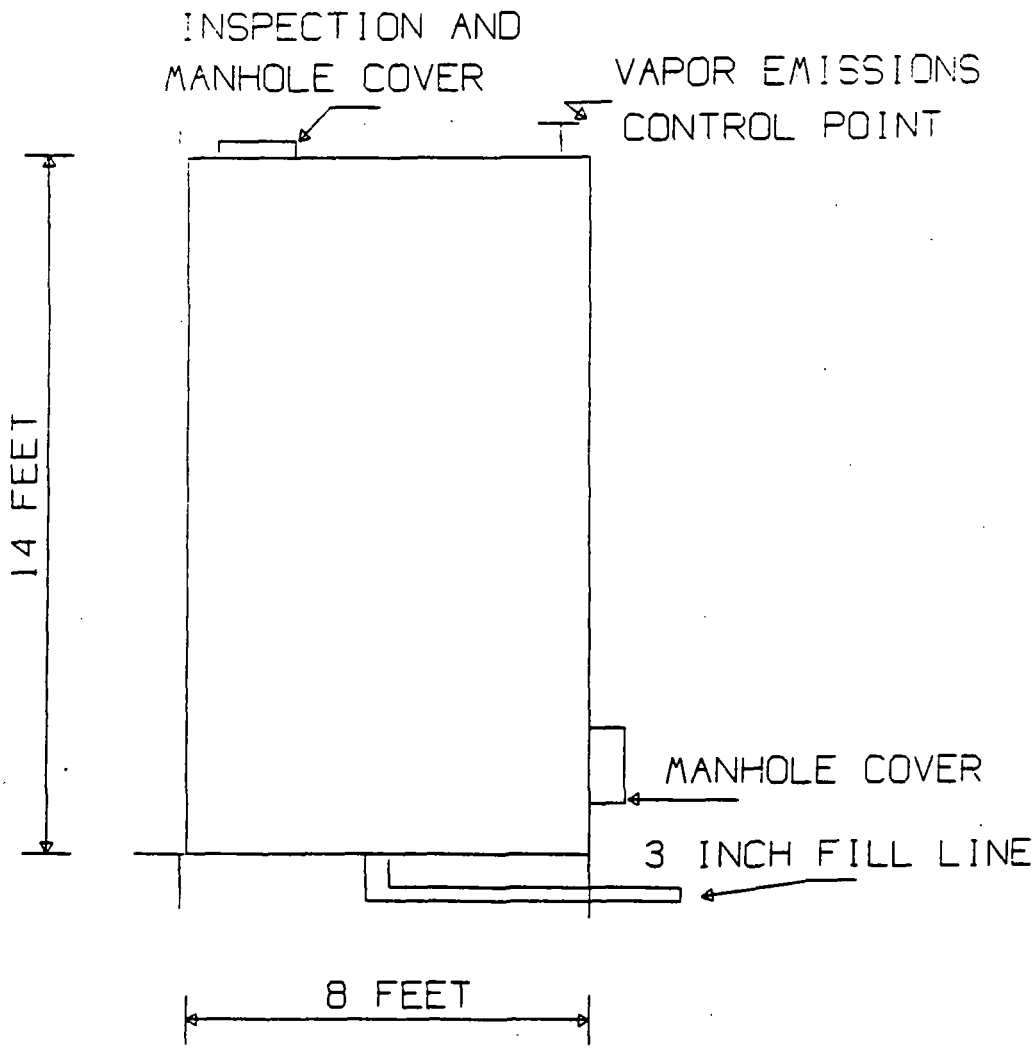


Figure VI-8 Specifications for 10,000 gallon tank shown on Figure VI-9

FIGURE VI-9
Drawing of Existing and Proposed 10,000 Gallon Tanks for Organic Solvents

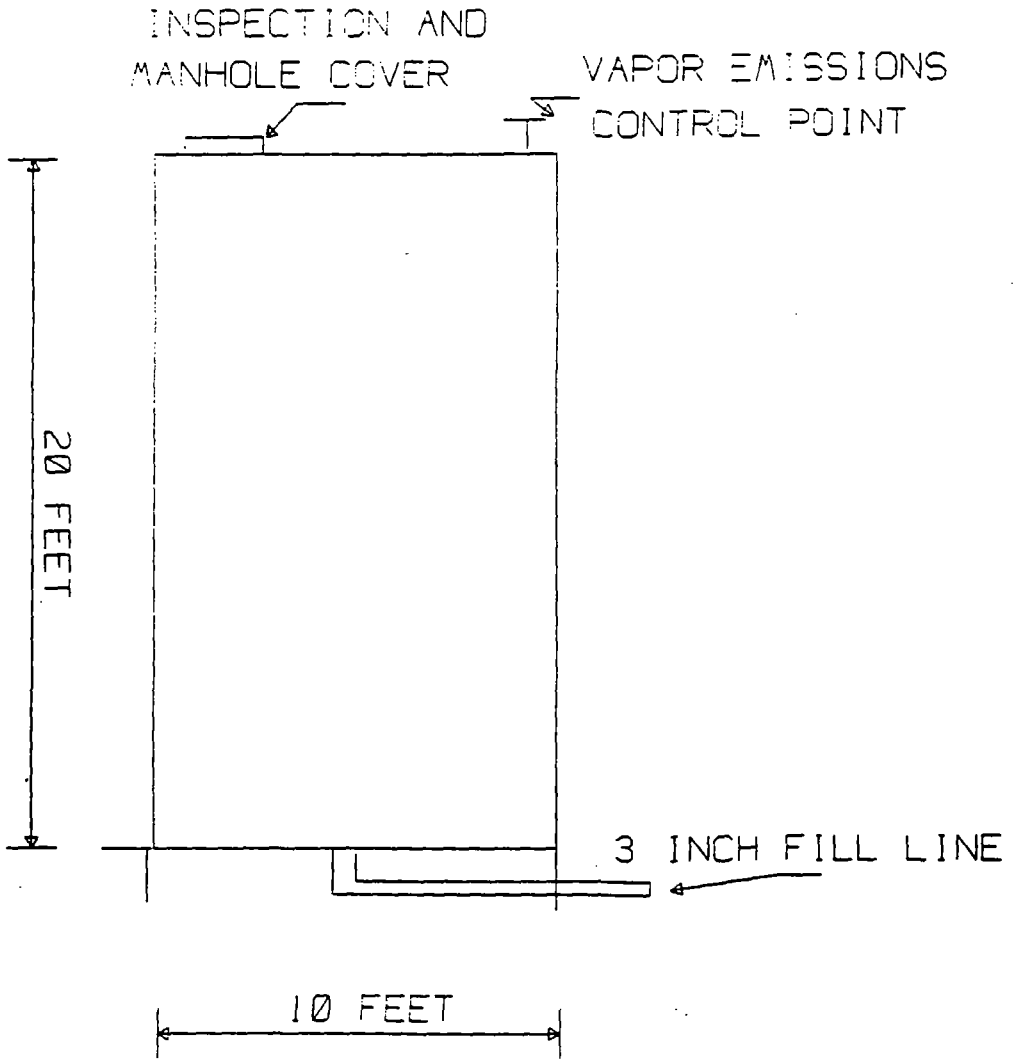


Figure VI-10 [Reserved for Future Use]

PROP-C-Controlled/Proprietary

PROP-C-Controlled/Proprietary

FIGURE VI-14

Schematic Drawing of Jake Wiped Film Evaporator

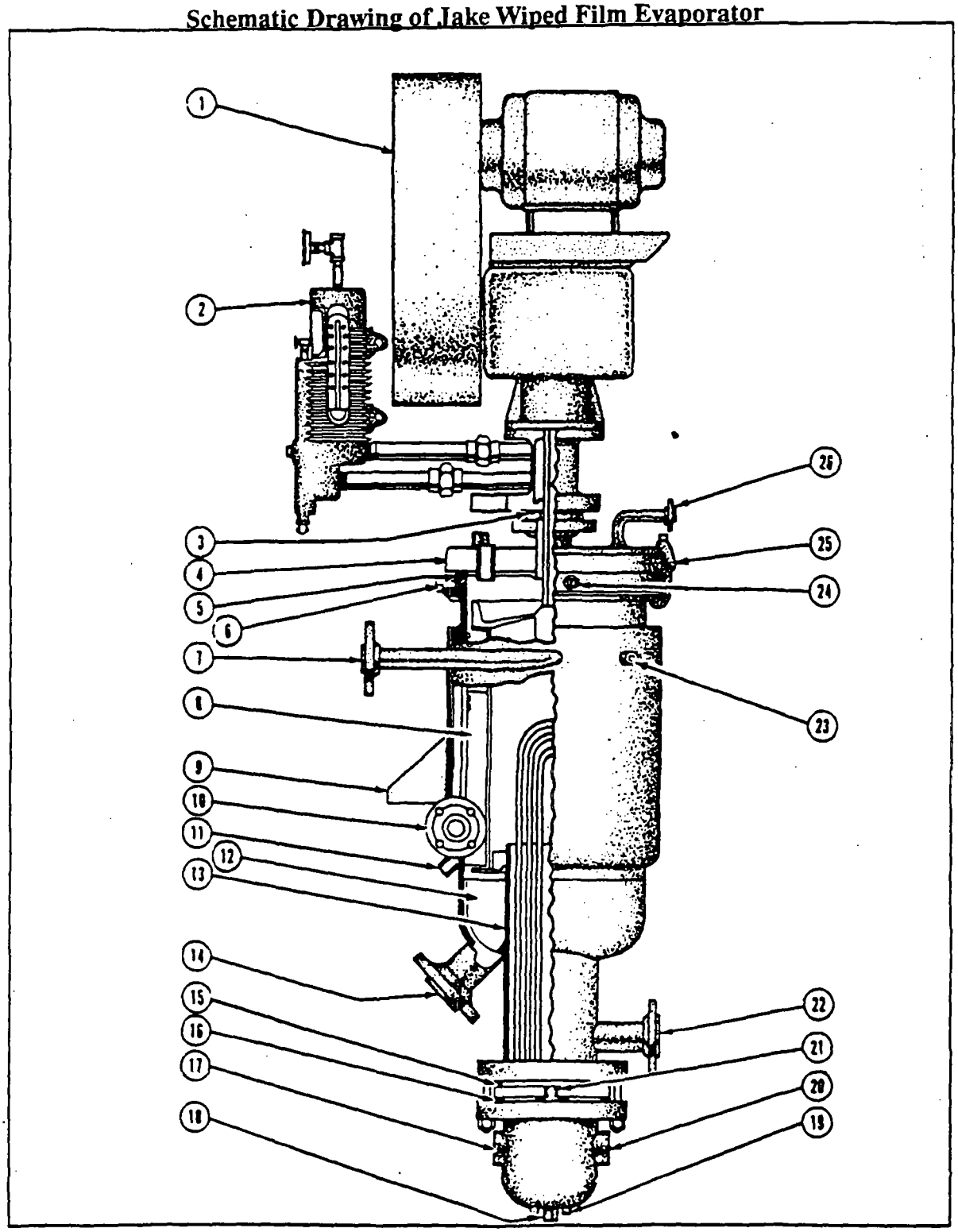
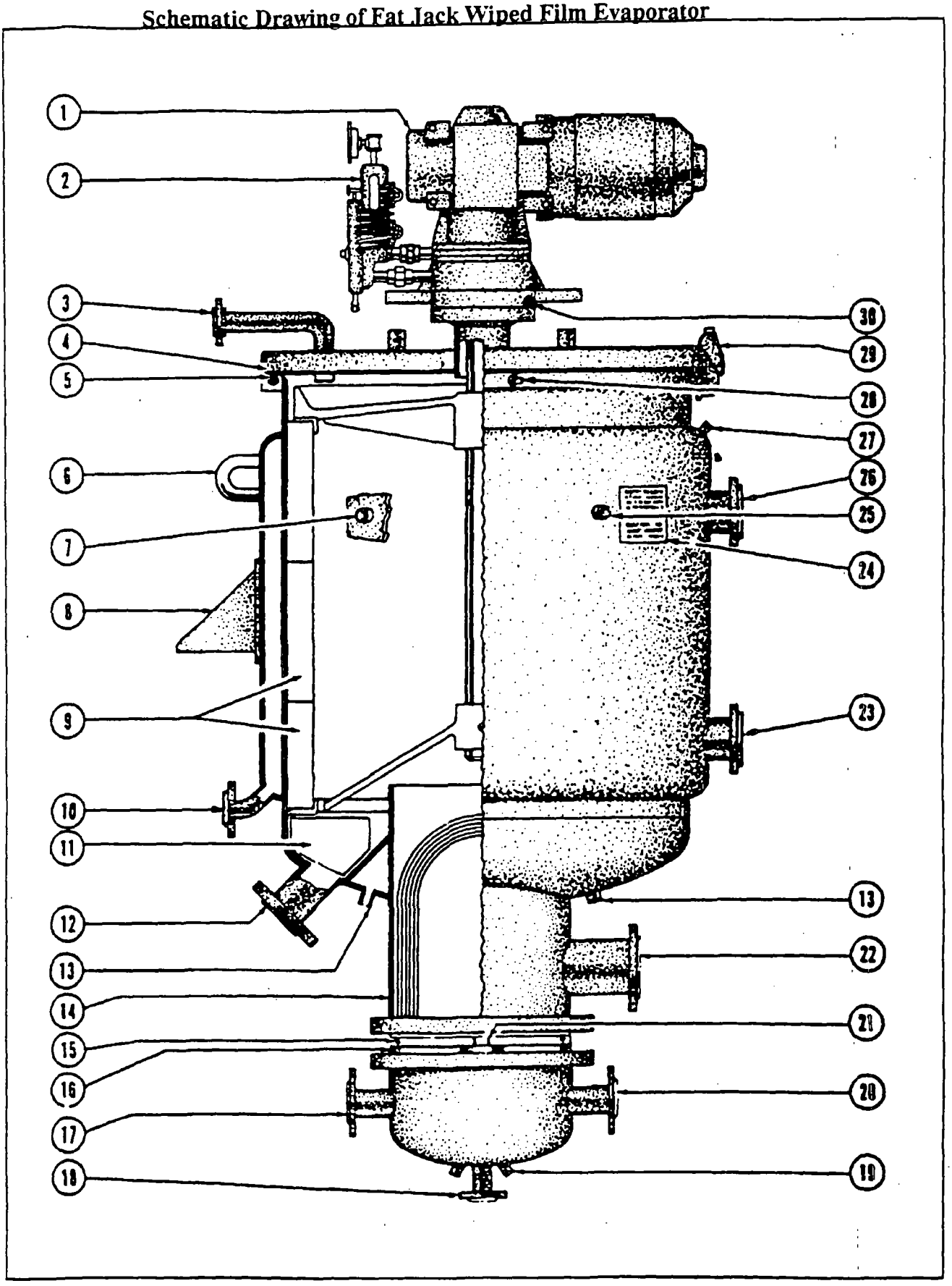


FIGURE VI-14 A

Schematic Drawing of Fat Jack Wiped Film Evaporator



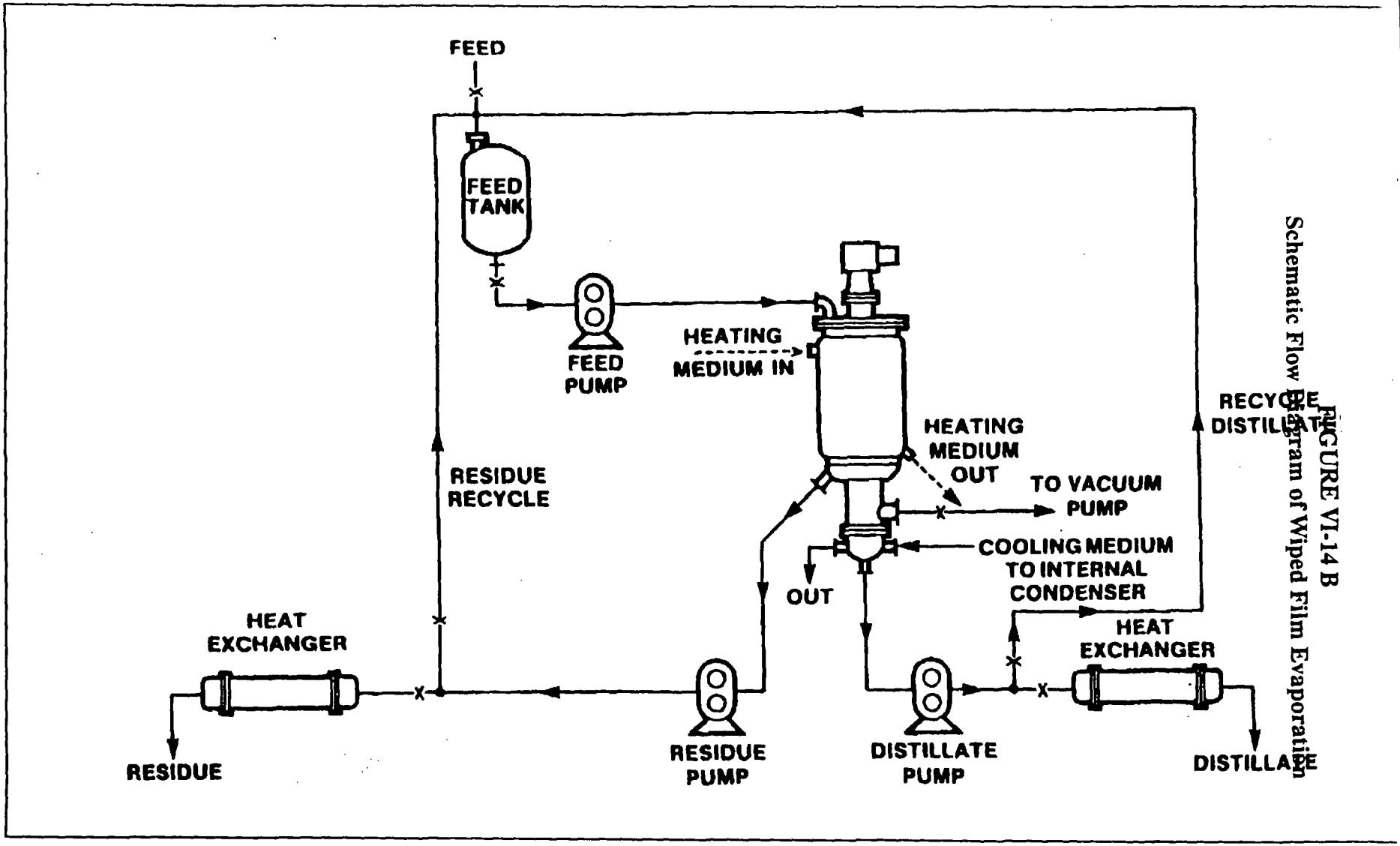


FIGURE VI-14 B
Schematic Flow Diagram of Wiped Film Evaporation

V. CHARACTERISTICS OF HAZARDOUS WASTES HANDLED AT THE FACILITY.

A. Waste Identification Of Hazardous Wastes Handled At Facility.

The waste presently accepted at the OMEGA facility can be characterized broadly as organic solvents and chemicals;and aqueous wastes with organic waste constituents. The primary business of the facility is, and will continue to be, the recycling of industrial and commerical hazardous and nonhazardous wastes to recover useful products. The complete list of hazardous wastes that OMEGA intends to accept under the terms and conditions of its Part B Permit is included in Appendix B and Appendix L which is the Part A submitted to DHS and EPA . Wastes may be received at the site manifested under a single waste designation, or may have any combination of the designations included in Appendix B. The listing of these wastes does not connote that they are coming or will be coming to the site. Only that the facility has the capability to handle these wastes at the approximate quantities listed.

Because State and Federal waste types often do not correspond, separate, overlapping lists for EPA and DHS waste code designations are provided in Appendix B. Also, the basis for hazard designation and hazardous properties are provided for each waste for which this information is available.

Wastes presently are received at the facility in containers and bulk shipments and are unloaded either at the Drum Storage Unit or into facility storage/ treatment tanks to await further processing.These wastes must have prior approval before being accepted at Omega's facility. Prior approval requires the generator submit a signed Waste Profile Form (see Figure V-1) and when required an appropriate sample of incoming waste. The accepted wastes when they arrive at the facility must undergo pre acceptance and incoming load sampling and analysis in accordance with Omega's Waste Analysis Plan (see Appendix C). The various types of waste treament equipment and procedures that are currently used or planned to handle, store, and process these accepted hazardous wastes are described in Section VI "Major Waste Management Devices used at the Facility".

These wastes arrive at the Omega site in containers and bulk truckloads. After manifest checking and load sampling, analysis, and approval according to the procedures in the Omega's Waste Analysis Plan (see Appendix C), these wastes are unloaded into the appropriate Container Storage Area or into an an appropriate storage tank. All bulk materials that arrive at facility are pumped from the authorized tankers and vacuum trucks to an appropriately designed holding tank. This transfer is done through compatible pumps and hoses.These wastes are then scheduled for treatment in the proper Waste Treatment Unit or transfer to other off-site facilites for further treatement or disposal.The types of waste management and processing equipment that are or will be used to handle, store, and treat the various hazardous wastes are described in Section VI Major Waste Management Devices.

The processes that produce these wastes are from a wide assortment of manufacturing and industrial processes. These commercial practices generate the wastes listed above.

Sources of these wastes are from the following industries.
Food and Kindred Products
Textile Mill Products
Lumber and Wood Products
Furniture and Fixture Products
Paper and Allied Products
Printing and Publishing
Chemicals
Petroleum Refining
Rubber and Plastics

Leather
Primary Metal
Fabricated Metal
Transportation Equipment
Machinery
Electrical and Electronic
Medical and Optical

ACUTE AND EXTREMELY HAZARDOUS WASTE

Acute and Extremely hazardous or designated as containing toxic contaminants that qualify the waste as an Extremely Hazardous Waste will not be processed at the facility. Omega will only act as a transfer agent for generators to another off-site facility capable and permitted to handle these types of wastes. Prior to accepting and transferring this waste to an appropriately permitted facility, Omega will work with the generator to obtain an Extremely Hazardous Waste Permit as required in California Regulations Title 26-66570. The ultimate off site facility will be designated as the treatment site. Omega will only be a transfer site.

NON ACCEPTABLE WASTES

Wastes that specifically are not accepted at the site include radioactive materials, infectious materials, explosives, municipal garbage/refuse, polychlorinated biphenyls (PCBS) regulated under the Toxic Substances Control Act (TSCA), and dioxin-containing wastes (i.e, EPA Nos. F020, F021, F022, F023, F026, F027, and F028).

ACCEPTABLE WASTES AND TYPICAL TREATMENT METHODS

A. The highest priority is to recycle all wastes back to the original generator's commercial use specifications and/or other end user requirements by removing through various treatment processes the contaminants in the waste stream from the original desired product.
A large amount of the following codes will fall under this category.
Federal Hazardous Waste Codes:

D001,D002, F001, F002, F003, F005, K009 to K030, K094, K095, K096, K083, K085, K103, K104, K105, K048, K049, K050, K051, K052, K062, K086, K084, K101, K102, and all the U Series .

California Hazardous Waste Codes:
211, 212, 213, 214, 311, 331, 341, 343, 451, 461, and 541.

B. If the waste material has little economic value for recycling or has a complex range of contaminants making the recycling process uneconomic, then waste will be processed to either reduce its hazardous characteristics by removing a waste component quantity that would eliminate one or more hazard category. The resultant waste material could then be handled or treated by a method to eliminate any long term hazardous condition.

An example would be the distillation of trace organics from waste water. The resultant waste water could then be treated and distilled to high purity for use in industrial uses such as boiler or cooling tower water make up. Another method would be the precipitation of trace metals from either organic or inorganic liquids. The resultant organic liquid could then be used for a fuel use.

The following codes would primarily fall under this type of treatment process:

Federal Waste Codes:

D004, D005, D006, D007, D008, D009, D010, D011, F006, F008, F010, F012, F019, K002 to K008.

California Waste Codes:

133, and 134.

C. The next type of methods used would be the neutralization and reaction of various waste streams. This method eliminates the hazard category or reduces the category to a much lower level.

An example would be the adjustment of acid and alkaline solutions to a pH of 7 where the acidic and alkali component is changed into an inorganic salt which can be physically removed from the solution. Another method of this type would the reaction of reactive wastes under controlled conditions to change the structure of the hazardous molecule to a less hazardous condition.

Federal Waste Codes:

F008, F010, F011, F020, and F021.

California Waste Codes:

123, 181, 352, 561, 751, and 113.

D. A fourth method is use the inherent thermal value of the organic waste material and process it into an acceptable fuel for use in industrial boilers and furnaces at sites which are permitted by the appropriate state and federal agencies.

Federal Waste Codes:

D001, D002,K048, K049, K050, K051, K052, and K086.

California Waste Codes:

221, 241, 251, 252, 352, 461, and 491.

This method would only use the above types of waste for fuel. These wastes are listed because they are ignitable, corrosive, or reactive - unless produces toxic gas upon reaction. None of the fuels to be used in this process will contain any constituents that are contained in Code Federal Regulations 40 Appendix VIII list.

E. A fifth method is to destroy the organic component through a thermal destruction process such as incineration. This method would require Omega to process and blend the waste into an acceptable form and type for the various off-site incineration facilities.

Federal Waste Codes:

D001, D002, D003, D012, D013, D014, D015, D016, D017, F020, F021, F022, F027, K001, K031 to K043, K097, K098, K084, K101, K102, P001 to P122, and all the U Series.

California Waste Codes:

241, 251, 252, 272, 311, 331, 341, 343, 351, 352, 451, 461, 491, 541, 561, 741, and 751.

F. A sixth method is to prepare the waste for disposal at an off-site land repository facility. These wastes would include the following:

Federal Waste Codes:

F028

California Waste Codes:

181, 512, and 513

G. A seventh method is the biological treatment of waste. This method would use a variety of anaerobic and aerobic micro organisms to reduce the organic wastes to their natural or basic elements such as water and carbon dioxide.

A.1 Recyclable Wastes

The OMEGA facility is capable of managing a wide variety of organic wastes through either recycling or use as a supplemental fuel. Most of these wastes arrive at the site manifested under a few common EPA waste codes, such as D001 (ignitable waste) or F001-FOO5 (halogenated and non-halogenated solvents). However, generators are obligated to include waste numbers for minor constituents, waste contaminants, or wastes which may no longer be present (i.e., "derived-from" wastes). For example, metal contaminant designations (e.g., D005-D008) and uncommon EPA-listed "P" and "U " wastes may be used to identify incoming wastes acceptable for on-site treatment. Because the potential waste code variations for wastes that may be accepted at the facility are impossible to predict, the list of acceptable waste designations in Appendix B is all inclusive. In actuality, some of the waste codes may never be received.

Solvent wastes accepted at the facility are generated from activities such as metal cleaning and degreasing, machining, and paint/coating manufacture and use. Industrial categories that best describe these activities include:

Examples of representative types of waste solvents that can be expected to be received at the facility are as follows:

PAINT INDUSTRY (Primarily oxygenated solvents and hydrocarbon solvents with paint related solids)

Waste solvent composition (by volume):	Toluene	40%
	Acetone	20%
	Methyl ethyl ketone	20%
	Isopropyl alcohol	15%
	Dirt, organic pigments	5%

Specific gravity (H_20 = 1.00 60^{O}F): 0.85-0.95; pH: 7; Flash point: 28 ^{O}F

ELECTRONICS INDUSTRY (can be chlorinated or fluorinated solvents such as 1,1,1-trichloroethane, 1,1,2-trichloro 1,2,2-trifluoroethane)

Waste solvent composition (by volume):	Pure component	90%
	Nonhazardous resin	10%

Specific gravity (H_20 = 1.00 60 ^oF): 1.3 - 1.5; pH: 2 - 10; Flash point: None

METAL CLEANING Industry (solutions of chlorinated hydrocarbons)

Waste solvent composition (by volume):	Perchlorethylene	85%
	Dirt, soil	15%
	or	
	Methylene chloride	80%
	Dirt, soil	20%

Specific gravity (H_20 = 1.00 60 ^oF): 1.1 - 1.45; pH: 3 - 9; Flash point: None

PRINTING INDUSTRY

Waste solvent composition (by volume):	Perchloroethylene	75%
	N-Butyl Alcohol	15%
	Ink Resin	10%

Specific gravity (H_20 = 1.00 60 ^oF): 1.1 - 1.45; pH: 5 -8; Flash point: None

REFRIGERATION AND AIR CONDITIONING INDUSTRY

Waste solvent composition (by volume):	Trichlorofluoromethane	80%
	Oil	15%
	Water	5%

Specific gravity (H_20 = 1.00 60 ^oF): 1.1 - 1.45; pH: 2 -8; Flash point: None

Other representative types of organic solvents that are received from an assortment of industries include butyl cellosolve, methanol, xylene, butyl acetate, ethylene dichloride, mineral spirits, and heptane.

OTHER WASTE PROCESSING CAPABILITIES AT THE EXISTING AND PROPOSED FACILITIES

1. Wiped Film Distillation, Batch Distillation, Reactor Systems and Treatment Units

2. Evaporation

Waste water that is contaminated with only non-volatile hazardous waste material which can be reduced to a smaller and more manageable volume by evaporation. This method removes the water from the waste and leaves behind a slurry of non-volatile residues.

This residue can then be further processed by through incineration and/or disposal in landfills. This reduces the total amount of material that must be disposed of in a proper manner. This evaporation method is located in the processing and recycling area shown in Figure II-5,II-6.

3. Consolidation

Some unrecycleable waste materials are generated, especially by small generators, in small, unmanageable and inappropriate amounts that can not be sent to an authorized landfill or incineration site with out addition handling and consolidation. These wastes may need to be either repackaged in appropriate containers, segregated into compatible groups and/or consolidation into workable amounts in order to assure the proper shipment to and handling by the landfill or incineration facilities. This method is performed in specific area of the diked storage area.

4. Solidification/Stabilization

Wastes that have no economic value for recycling and the wastes residuals from Omega's processing systems, are solidified, in drum containers, with a solidification materials similar to cement dust or diatomacious coagulant. This waste solidification will then render a solid like material that can be packaged in a DOT certified drum for disposal at a permitted landfill or incineration site.

The drums or material from tanks that need to be solidified are brought to the solidification area for processing. The personnel are all wearing appropriate protective gear. The drums are cut open using an air operated drum deheader. The waste material is removed from the container and mixed with compatible solidification material so that the resultant product is completely and effectively solidified. This material is repackaged in an appropriate container and placed back in a proper storage area.

Through this stabilization/solidification process the four primary goals of treating hazardous waste for ultimate disposal are attained:

(1) Improved the handling and physical characteristics of the waste.

(2) To decrease the surface area across which transfer or loss of contained pollutants can occur.

(3) To limit the solubility of any pollutants contained in the waste.

(4) To detoxify contained pollutants.

These stabilized wastes would then be packaged in appropriate containers and sent to an authorized landfill or incineration facility. This method is done in the identified area of the storage system.

5. Fuel Production

Some wastes because of their inherent energy value should be burned as fuel and therefore avoiding wasteful disposal in landfills. With the proper blending and adjustment through chemical and physical means some waste material can be made available to certain approved facilities for such burning. These facilities include cement kilns and similar operations. These facilities are licensed by state and federal agencies to accept wastes meeting the requirements of these agencies for burning. Waste oil and alcohols for example fall within this grouping.

6. Neutralization

Some wastes especially acids and alkalis can be neutralized through a combination of physical and chemical operations to form mineral salts and water. This waste water rendered non hazardous can often be disposed of through public sanitation system or the waste water which contains on inorganic

non- volatile component can be evaporated to leave behind the inorganic salt that no longer qualifies as hazardous waste.

There are a variety neutralization methods that can use to transform a hazardous waste into a less or non-hazardous waste.

An example of proper neutralization technique is the following:

Through prior process compatibility determinations , a specific waste has been designated for the batch neutralization process. Personnel wearing proper protective garments and equipment will move the waste container(s) to the neutralization area (See VI Waste Management Devices- Waste Water Treatment Units and Methods).

The waste will have a treatment method described for the waste to be followed by the treating personnel. This treatment method will have been signed off as to being correct both by plant manager and laboratory manager or his designated subordinate.

The treating personnel will then place the waste in a process unit that is compatible with the waste. At the proscribed rate amounts of a dilute alkali solution will be added to the acid solution to adjust and raise the pH to a neutral level of 7.0. In the case of an alkali waste , dilute amounts of an acid solution will be added to lower the pH to 7.0.

When the process has been completed the product will be returned to the storage area in a proper container and the batch processing information will be logged onto its waste control sheet.

7. Reactions

There are four types of reactions of organic compounds can be classified:

Acid-Base: This method is previously described in the neutralization method.

Substitution: In this type of reaction two compounds form two new compounds. The cation of one reactant combines with anion of the other reactant.

An example-

AB + CD -> AD + CB

Two higher hazardous wastes such as AB and CD are reduced to non-hazardous or lower hazardous characteristic type products such as AD and CB.
Addition-elimination:

Oxidation and Reduction: The characteristic feature of an oxidation-reduction reaction is a transference of electrons from one substance to another. The substance that gives up its electrons is called a reducing agent. It contains the atoms which are oxidized, that is, have lost electrons. The substance that gains the electrons is called the oxidizing agent. It contains the atoms which are reduced, that is, have gained electrons.

These various reactions are to reduce or eliminate the hazardous potential of the various hazardous wastes .

This type of reaction is used in the formation of Carbon Dioxide in fire extinguishers.

Sodium bicarbonate and aluminum sulfate are stored as separate aqueous solutions or as powders within the extinguisher. When mixed together, they form carbon dioxide.

$$6NaHCO_3 + Al_2(SO_4)_3 \rightarrow 3Na_2SO_4 + 2Al(OH)_3 + 6CO_2$$

8. Thermal Treatment of Hazardous Wastes

This permit application covers only acceptance of hazardous waste that is consolidated and adjusted and then shipped to an authorized incineration facility other than Omega at Whittier.

Supplemental Fuels Blending - Organic-bearing wastes that cannot be recycled, but have a sufficient energy content and a suitable composition, are/will be accepted for blending into a supplemental fuels waste that can be burned at off-site permitted facilities.

Some wastes can be used as fuels in authorized boilers or furnaces or because of regulations and rules by EPA and DHS they are forbidden to be accepted at landfill facilities. These wastes will be adjusted to meet the requirements of these off-site incineration facilities. The waste will be accumulated in the storage area when the quantity is appropriate they will be manifested and shipped to permitted hazardous waste incineration facilities.

9. Biological Treatment Methods

Many wastes including waste waters contaminated with organic components can be reduced through anaerobic and aerobic micro organisms to their basic molecular levels such as organics reduced to carbon dioxide and water. Many complex compounds can biologically be reduced to their elemental nature making the resultant product non hazardous.

A.2 Facility-Generated Wastes

The overwhelming majority of facility-generated wastes are, and will continue to be, the byproducts of solvent recycling activities. These waste streams include dilute aqueous waste of low BTU value, still bottom residuals, and non-recyclable organic (primarily halogenated solvent) wastes. Presently, these wastes are manifested off-site for use as supplemental fuels or for destructive incineration; other options, including on-site treatment, may be used in the future. Other sources of facility-generated wastes include laboratory wastes that are accumulated in a 55-gallon drum and contaminated water or waste captured in secondary containment areas. The types and quantities of facility-generated wastes that were manifested off-site in 1989 are summarized on Table V-1. Additional types and composition of wastes are listed in Figure V-2 Hazardous Wastes Compositions

TABLE V-1
TYPICAL TYPES OF WASTES GENERATED BY OMEGA

Generator: Omega Recovery Services Date: September 15, 1989
Address: 12504 E. Whittier Blvd
Whittier, CA 90602

Contact/Phone EPA Waste Code(s): D001, F001,F002,F003, & F005

EPA ID No. CAD042245001

Source: Industrial Solvent Recycling

Qualification Analysis for Lebec.

Organics	
Acetone	1.9%
Isopropyl Alcohol	5.1%
Methylene Chloride	1.5%
Methyl Ethyl Ketone	3.5%
Tetrahydrofuran	0.3%
1,1,1 Trichloroethane	2.5%
Trichloroethylene	0.7%
Methyl Isobutyl Ketone	1.7%
Toluene	7.2%
Butyl Acetate	2.7%
Glycol Ether PM Acetate	0.6%
Ethyl Benzene	2.7%
Xylene	16.0%
Cyclohexanone	0.3%
C9-C10 Alkyl Benzenes	5.2%
Tributyl Phosphate	4.7%
C6-C16 Aliphatics	43.4%
Benzene	<0.1%

Heat Content	10,700	Btu's /lb
Viscosity	25	cp
Solids	9	% volume
Sulfur	0.2	% Wt.
Nitrogen	<0.1	% wt.
Halogens	4.4	% wt. as Cl
Aqueous Extraction	7	pH
Water (separated phase)	2	% volume
Ash	2.04	%wt.
Specific Gravity	0.90	gr/ml
PCBs	<50	PPM

Metals

Pb	<100	ppm	Ba	<100	ppm
Zn	400	ppm	Ti	200	ppm
Cr	<100	ppm	Fe	200	ppm
Se	<200	ppm	Cd	<100	ppm
V	<100	ppm	As	<200	ppm

B WASTE ANALYSIS PLAN

OMEGA has developed a comprehensive Waste Analysis Plan (WAP) for the OMEGA facility to ensure that wastes are identified properly prior to acceptance, are evaluated at the time of delivery, and are monitored during processing. A copy of the WAP is provided in Appendix C. A brief overview of this document is provided in the following sections. However, the reviewer should read the WAP in its entirety to understand fully the waste characterization procedures practiced at the facility.

The procedures set forth in the WAP are designed to ensure that OMEGA is in compliance with all EPA and DHS requirements for the sampling and analysis of wastes accepted at the facility. A copy of the WAP is available on-site at all times. The plan is reviewed periodically (approximately every year) to confirm that the waste analysis procedures described -therein are -accurate and current.

Pre-Acceptance Procedures

With certain exceptions, waste generators that desire to ship wastes to OMEGA first must provide: 1) chemical and physical data requested on a Waste Profile Sheet (WPS), or equivalent form, 2) a representative sample(s) accompanied with a properly completed Certification of Representative Sample, or equivalen form, and 3) other supporting documentation necessary to assist in the identification of the waste. All waste identification information is maintained in files at the facility. OMEGA or a contract laboratory verifies the WPS data by performing requisite confirmatory analyses on the representative sample(s). After comparing the data supplied by the generator with that obtained by onsite analyses, the OMEGA Technical Manager, Laboratory Manager, or their designee determines the acceptability of the waste based on the permit conditions for the facility and the availability of the proper waste management technique.

Waste Sampling

With certain exceptions, wastes entering the facility are sampled and analyzed for mandatory and supplemental analyses, as required, to identify and confirm the acceptability of the waste for targeted storage/treatment units. Bulk load samples are taken as soon as the truck enters the facility, whereas samples of containerized wastes are not taken until the containers have been off-loaded at the Drum Storage Unit. Once in drum storage, containers are sampled, analyzed, and/or inspected prior to further processing. Specific sampling procedures depend on both the nature of the material and the type of containment. At a minimum, the sampling methods and equipment used by OMEGA personnel for specific materials correspond to those referenced in 40 CFR 261, Appendix 1.

TABLE V-2
Hazardous Wastes Manifested Off-Site from the OMEGA Facility in Calendar Year 1989

DHS Code	Waste Description	Quantity
134	Aqueous solutions with total organic residues less than 10%	19,300 gal
211	Halogenated solvents	1,600 gal
251	Still bottoms with halogenated organics	47,245 gal
252	Other still bottom wastes	665,000 gal
352	Other organic solids	120 tons

Sampling of small containers (e.g., drums, cartons, and other small units) varies with the nature of the waste material. For liquids, the sampling device of choice is either a Coliwasa or open tube sampler to draw a full vertical section. Light, dry powders and granules generally are sampled with a tube to obtain a vertical core. Heavier solids may be sampled by trier or shovel, or by coring with heavy tubing.

For tank trucks, tanks, or large containers, a Coliwasa or open-tube sampler is used when possible. However, it may be necessary to use a weighted bottle or bomb sampler to allow sampling of various depths. Tank sediments are sampled from a bottom sampling valve, as necessary, when not readily sampled from above. Storage/treatment tanks and associated piping have strategically located sampling ports that allow in-storage or in-process waste sampling.

Laboratory samples typically are held for a period of three months in storage cabinets in an on-site warehouse located on the facility . This allows for sample retesting if the data need to be reconfirmed, or if a problem arises with a generator's waste stream during this period. At the end of three months (as monitored by dates marked on the sample containers), the samples are commingled in collection drums and sent off-site for treatment/disposal. Most sample wastes are suitable for blending and use as supplemental fuels.

Waste Analysis

Three groups of analyses may be used at the facility to identify each waste and to indicate the most appropriate means of storage/treatment. They are mandatory analyses, unique supplemental analyses, and supplemental analyses using standard techniques. Mandatory analyses, to which all preacceptance and incoming waste loads are subject, as applicable, include basic screening procedures to ensure that the waste is the same as described on the WPS and manifest and to ensure that the proper waste management technique is used. Supplemental analyses are performed at the discretion of the Technical Manager/Laboratory Manager (or designee) to further identify the waste. Most tests are performed in accordance with standard, EPA-recognized procedures, including those referenced in EPA's Test Methods for Evaluating Solid Waste (SW -846) and the American Public Health Association's Standard Methods for the Examination of Water and Wastewater. Other tests have been improvised for certain waste handling processes when standard techniques were found to be lacking or inadequate.

Facilities Processes And Design Capacity

Prior to any decision of process treatment of the hazardous waste brought to Omega's facility. All waste must be identified as to its constituents and the hazard category or combination of hazard categories that it falls within. Waste compatibility and process compatibility is important to determine before any treatment process or storage of the waste is performed. The potential for incompatibility of wastes in storage and processing must be known.

If conclusive information is not known or available on storage and process compatibility, a controlled testing of storage and process parameters of the waste in small amounts will be done in the laboratory to determine the characteristics of the waste under the predicted operating and storage conditions. In general, the following steps would be used at Omega's facility to determine storage and process compatibility.

A. Request from the generator as much information as possible about the waste, since the information required on the waste manifest is very general and of limited use in determining operating compatibility. The generator would be asked to fill out Omega's Hazardous Waste Profile in Figure V-1. Whatever the generator can not fill out or is unknown will be tested by Omega in its laboratory or certified DHS Laboratory.

B. If a waste has not been handled previously at the facility, it will be analyzed and processed tested by use of a representative sample. The information obtained through these procedures will verify the generator's information and determine the proper treatment and conditions for handling the waste.

C. The process and storage compatibility will be determined and attached to the internal documents on the specific waste. The decision tree for this process is included in Waste Analysis Plan Appendix C.

Records on all received and processed waste material are kept in bound notebooks and in a computerized data base . These records include:

a. Physical and chemical characteristics of waste received.
b. Waste identification and handling data.
c. Production records on processed waste.
d. Initial Waste evaluation.
e. Product analysis.
f. Omega's waste analysis.

The majority of the wastes handled by this facility are designated as Hazardous waste. These wastes are primarily flammable waste products of an organic nature.

The facility also handles a smaller amount of the waste material designated as Corrosive [redacted] and Toxic wastes. There is also handled, on occasion, some waste materials that have various designation such as TCLP toxic.

B. Methods used for the identification of hazardous waste.

The Methods used for the identification of the various hazardous wastes are shown in Table V-1 which lists the Waste Name and appropriate EPA and DHS waste codes , the Test parameter , Analytical Method, and Equipment required.

The appropriate level of analysis that is required for the various types of wastes is described in the Waste Analysis Plan in Appendix C.

C. Waste Analysis Plan for Omega Recycling at Whittier Facility.

Omega has developed an extensive Waste Analysis Plan for its facility at Whittier. This plan was developed to insure that all wastes and samples coming to the facility are properly identified and evaluated prior to acceptance and are handled in safe and environmentally proper treatment method .

A synopsis of the Waste Analysis Plan is outlined :

1. Identification of Hazardous Waste Prior to Acceptance.

Each waste shipment that passes initial inspection will be sampled and analyzed. We sample all waste shipments. The analysis of waste shipments does not always include measuring all the parameters used in our initial review of the generator's Waste Profile characterization. We select a subset of these to measure known as "key parameters", so we can

1) Obtain the best indication of waste treatability within given time and labor constraints.

2) Identify any ignitable, reactive, or incompatible wastes that may be present.

The key parameters are selected based on

The need to identify any restricted wastes

Waste characteristics that affect treatment process performances

The ignitability, reactivity, or incompatibility of the wastes

Those parameters that best indicate waste characteristics change.

Sampling

The sampling procedures have been developed by first identifying the wastes' physical/chemical properties and means of containment, e.g. tanker truck. Appropriate representative sampling techniques, devices, and containers that are compatible with wastes to be sampled. Any special waste handling requirements will be used based on literature, work history, and generator information.

Wastes arriving in 55 gallon drums are sampled at midlevel in the drum through the bung opening. Each drum is sampled and identified.

Tanker trucks will be sampled through access ports in the tanks. Various ports on the truck will be sampled to confirm samples are representative of waste.

(b) Methods

Quality Assurance Methods and protocol for evaluations are included in Appendix C.

2. Identification of Hazardous Waste after Acceptance.

A record of all received waste material (both bulk and in drums) is kept in a bound Waste Container Log Book. Each individual drum is identified by code. This code can traced back to specific manifest and customer. Every container is labeled and analyzed according to need to verify contents to incoming approved Waste Profile from customer. This data is then placed in a computerized data base for ease of reference and as a back up to the original written record. All incoming waste material is identified and recorded in the Log Book as to the type and quantity (Appendix C).

4. Methods and techniques are reviewed at our monthly supervisor's meetings.

5. The waste analysis plan is reviewed on annual basis to insure conformance with current regulations and rules. It is reviewed should any major piece of legislation be passed and signed into law to insure that Omega is conforming to the current and most recent legislation.

WASTES ACCEPTED AT FACILITY WHICH ARE EXEMPTED FROM MANIFEST AND REPORTING REQUIREMENTS

Omega accepts Chlorofluorocarbon refrigerants that have been exempted from the manifesting and RCRA requirements by both EPA and DHS. The letters exempting this type of waste are shown in Figure V-3 a letter from the DHS to EPA stating that DHS does not consider CFC refrigerants regulated under State of California

regulations. Figure V-4 is excerpt from Federal Register exempting CFC type refrigerants from the RCRA requirements.

OMEGA RECOVERY SERVICES

WASTE DATA PROFILE NO B_____

GENERATOR INFORMATION

Generator Name:_____

Technical Contact_____Phone No. ( )_____

Emergency Contact_____Phone No.( )_____

Generator USEPA ID #:_____State ID :_____

Address:_____

City:_____State:_____Zip:_____

PICK UP INFORMATION

Special pick up requirements or location :_____

GENERAL WASTE DESCRIPTION

Name of Waste:_____

Process generating Waste:_____

Quantity Generated:_____Unit_____Per (Year/Month)_____

SHIPPING INFORMATION

EPA Waste Codes:_____

State Waste Codes:_____

DOT Shipping Name:_____

DOT Hazard Class:_____

DOT UN/NA #:_____RQ(pounds)_____

METHOD OF SHIPMENT

Drums: Type/Size_____Bulk:Type/Size_____

Transportation requirements:_____

Special Needs:_____

RECERTIFICATION REQUIREMENTS

This waste data information must be recertified (ie updated) twelve months from the date signed and thereafter recertified on an annual basis. In addition, if the characteristics of the waste change or if the generating process changes, a new Waste Data Profile must be submitted for approval prior to shipment.

OMEGA RECOVERY SERVICES

WASTE DATA PROFILE NO B_____

REGULATORY COMPLIANCE

OSHA Listed Compounds: Indicate Actual Value, in ppm or 0 or **NA** for Not Applicable or **LT** for less than or **GT** for greater than regulatory concentration.

Acrylonitrile(vinyl cyanide)		Inorganic arsenic	
4-Nitrobiphenyl		Coke oven emissions	
Methyl chloromethyl ether		1,2-dibromo-3-chloropropane	
3,3'-Dichlorobenzidine (and its salt)		Asbestos	
Benzidine		alpha-Naphthylamine	
Ethyleneimine		bis-Chloromethyl ether	
2-Acetylaminofluorene		beta-Napthylamine	
N-Nitrosodimethylamine		Benzene	

The EPA land disposal restriction regulations (40 CFR 268) apply to these materials, under the following categories:

____ Solvent/dioxin (See attach. 1)
____ California list, specifically (See Attach.2)
____ "First Third" list (See Attach. 3)
____ "Second Third" list (See Attach.4)
____ "Third Third" list (See Attach.5)

This waste is either a non-wastewater or a wastewater type. Check ONE____Non-Wastewater____Wastewater

Does the waste contain any of the following: Please circle of check the appropriate category.

Radioactive	Y	N	Polymerizable	Y	N
Infectious	Y	N	Pyrophoric	Y	N
Water Reactive	Y	N	Air Reactive	Y	N
Explosive	Y	N	Shock Sensitive	Y	N
Oxidizer	Y	N	Reactive Sulfide	Y	N
Reactive Cyanide	Y	N	Polychlorobiphenyls (PCB)	Y	N

CHEMICAL COMPOSITION (Must add up to 100%)

Chemical Name (Generic)	CASRN	Concentration (Unit/Vol/Wt)	RQ (lbs)

OMEGA RECOVERY SERVICES

WASTE DATA PROFILE NO B_____

PROPERTIES OF WASTE

Color		Odor	
Physical State	Gas	Liquid	Solid
Phases	Single Layer	Double layer	Multi-layer
Specific Gravity		Viscosity (CPS@25C)	
pH		Melting Point F	
Flash Point		Boiling Point F	
Water (wt%)		Sulfur (Wt %)	
BTU 's per pound		Suspended Solids (Wt %)	
Halogen Content(Iodine, Bromine,Chlorine,Fluorine		Vapor Pressure (mmHg at Temp)	
Ash Content (Wt %)		Cyanide %	
Additional Information			

ELEMENTAL ANALYSIS: TCLP INORGANICS(MG/L)

Indicate Actual Value, or 0 (Use LT for less than or GT for greater than regulatory concentration)

D004	Arsenic (5.0 mg/l)		D008	Lead (5.0 mg/l)	
D005	Barium (100.0 mg/l)		D009	Mercury (0.2 mg/l)	
D006	Cadmium (1.0 mg/l)		D010	Selenium (1.0 mg/l)	
D007	Chromium (5.0 mg/l)		D011	Silver (5.0 mg/l)	

TCLP ORGANICS (MG/L)

Indicate Actual Value, or 0 (Use LT for less than or GT for greater than regulatory concentration)

D018	Benzene (0.5 mg/l)		D032	Hexachlorobenzene (0.13 mg/l)	
D019	Carbon Tetrachloride(0.5 mg/l)		D032	Hexachlorobutadiene (0.5 mg/l)	
D020	Chlordane (0.03 mg/l)		D013	Lindane (0.4 mg/l)	
D021	Chlorobenzene (100.0 mg/l)		D014	Methoxychlor (10.0 mg/l)	
D022	Chloroform (6.0 mg/l)		D035	Methyl Ethyl Ketone (200.0 mg/l)	
D023	o-Cresol (200.0 mg/l)		D036	Nitrobenzene (2.0 mg/l)	
D024	m-Cresol (200.0 mg/l)		D037	Pentachlorophenol (100.0 mg/l)	
D025	p-Cresol (200.0 mg/l)		D038	Pyridine (5.0 mg/l)	
D026	Cresol (200.0 mg/l)		D039	Tetrachloroethylene (0.7 mg/l)	
D016	2,4-D (10.0 mg/l)		D015	Toxaphene (0.5 mg/l)	
D027	1,4-Dichlorobenzene (7.5 mg/l)		D040	Trichloroethylene (0.5 mg/l)	
D028	1,2-Dichloroethane (0.5 mg/l)		D041	2,4,5-Trichlorophenol(400.0 mg/l)	
D029	1,1-Dichloroethylene (0.7 mg/l)		D042	2,4,6- Trichlorophenol(2.0 mg/l)	
D030	2,4-Dinitrotoluene (0.13 mg/l)		D017	2,4,5-TP Silvex (1.0 mg/l)	
D012	Endrin (0.02 mg/l)		D043	Vinyl Chloride (0.2 mg/l)	
D031	Heptachlor (0.008 mg/l)				

OMEGA RECOVERY SERVICES

WASTE DATA PROFILE NO B_____

TREATMENT CERTIFICATIONS

Please provide the appropriate treatment specifications as per 40 CFR 268 for each waste code and subcategory codes for the identified waste cited in this waste profile. If a waste fits the definition of more than one characteristic code, it carries multiple codes and must be treated to meet the treatment standard for each characteristic.

Constituent	Treatment Standard	CCW	CCWE

Use Addendum Sheet for additional constituents.

Please provide any additional information that may be required for the proper treatment of cited waste in this waste data profile.

_____

_____

_____

_____

REQUIRED PROTECTIVE EQUIPMENT AND PROCEDURES

Please attach all Material Safety Data Sheets, analysis reports, handling precautions, additional hazardous support information, data, and comments.

_____

_____

_____

_____

SAMPLE SUBMITTED: Any sample submitted must have a chain of custody record attached to the sample.

ACKNOWLEDGEMENT

I hereby certify and warrant that the information supplied on this form and on any attachments or supplements represents a complete and accurate identification and description of this waste material, its constituents and its known or suspected hazards. I further certify and warrant that this information is the result of an analysis of a representative sample of the waste obtained and analyzed in accordance with testing procedures of the U.S. Environmental Protection Agency or state agency or from the knowledge of the waste materials.

PRINT OR TYPE NAME:_____ DATE:_____

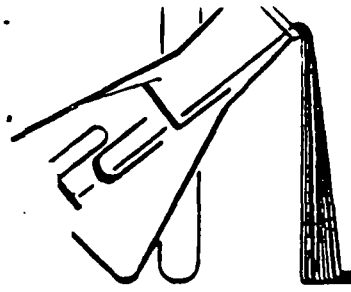
SIGNATURE:_____ TITLE:_____

ACCEPTANCE BY OMEGA:ACCEPTANCE LETTER WAS SENT TO GENERATOR

PRINT OR TYPE NAME:_____ DATE:_____

SIGNATURE:_____

FIGURE V-2



PATCHEM LABORATORIES

2205 First St. #108 • Simi Valley, CA 93065 • (805) 581-9006

Customer: Omega Recovery Services
12504 E. Whittier Blvd.
Whittier, CA 90602

Attention: Mr. Greg McKim

Sample Date: 10-1-90

Report Date: 10-23-90

Sample I.D.: 9010-4003

Subject: Colortech Graphic Inc. Sample - TCLP

Sample Location: 315 South Flower Street

Method: Sample was analyzed per EPA *Test Methods for Evaluating Solid Waste, Physical/Chemical Method* (SW-846).

Results:

PARAMETER	EPA METHOD	DETECTION LIMIT	ANALYSIS
Arsenic	7060	0.05 mg/L	< 0.05 mg/L
Barium	7080	0.1 mg/L	< 0.1 mg/L
Cadmium	7130	0.02 mg/L	< 0.02 mg/L
Chromium	7190	0.05 mg/L	0.17 mg/L
Lead	7420	0.02 mg/L	1.84 mg/L
Mercury	7471	0.05 mg/L	< 0.05 mg/L
Selenium	7740	0.1 mg/L	< 0.1 mg/L
Silver	7760	0.02 mg/L	< 0.02 mg/L

Comments: Sample was prepared per Method 3010 of SW-846 for metals analysis, after TCLP extraction.

Respectfully Submitted,

Pat Brueckner
Chemist

FIGURE V-2 A

PATCHEM LABORATORIES

2205 First St. #108 • Simi Valley, CA 93065 • (805) 581-9006

Customer: Omega Recovery Services
12504 E. Whittier Blvd.
Whittier, CA 90602

Attention: Mr. Greg McKim

Sample Date: 10-1-90 Sample I.D.: 9010-4003 (Page 2 of 3)

Subject: Colortech Graphic Inc. Sample (315 South Flower Street) - TCLP

Method: Sample was analyzed per EPA Method 8240/8270 of *Test Methods for Evaluating Solid Waste, Physical/Chemical Method* (SW-846).

Results:

PARAMETER	DETECTION LIMIT	ANALYSIS
Benzene	0.05 mg/L	< 0.05 mg/L
Carbon Tetrachloride	0.05 mg/L	< 0.05 mg/L
Chlordane	0.05 mg/L	< 0.05 mg/L
Chlorobenzene	0.05 mg/L	< 0.05 mg/L
Chloroform	0.05 mg/L	< 0.05 mg/L
o-Cresol	0.05 mg/L	< 0.05 mg/L
m-Cresol	0.05 mg/L	< 0.05 mg/L
p-Cresol	0.05 mg/L	< 0.05 mg/L
Cresol	0.05 mg/L	< 0.05 mg/L
2,4-D	0.05 mg/L	< 0.05 mg/L
1,4-Dichlorobenzene	0.05 mg/L	< 0.05 mg/L
1,2-Dichloroethane	0.05 mg/L	< 0.05 mg/L
1,1-Dichloroethylene	0.05 mg/L	< 0.05 mg/L
2,4-Dinitrotoluene	0.05 mg/L	< 0.05 mg/L
Endrin	0.05 mg/L	< 0.05 mg/L
Heptachlor	0.05 mg/L	< 0.05 mg/L
Hexachlorobenzene	0.05 mg/L	< 0.05 mg/L
Heptachlorobutadiene	0.05 mg/L	< 0.05 mg/L
Lindane	0.05 mg/L	< 0.05 mg/L
Methoxychlor	0.05 mg/L	< 0.05 mg/L
Methyl Ethyl Ketone	0.05 mg/L	7200 mg/L
Nitrobenzene	0.05 mg/L	< 0.05 mg/L
Pentachlorophenol	0.05 mg/L	< 0.05 mg/L
Pyridine	0.05 mg/L	< 0.05 mg/L
Tetrachloroethylene	0.05 mg/L	< 0.05 mg/L
Toxaphene	0.05 mg/L	< 0.05 mg/L
Trichloroethylene	0.05 mg/L	64.0 mg/L
2,4,5-Trichlorophenol	0.05 mg/L	< 0.05 mg/L
2,4,6-Trichlorophenol	0.05 mg/L	< 0.05 mg/L
2,4,5-TP Silvex	0.05 mg/L	< 0.05 mg/L
Vinyl Chloride	0.05 mg/L	< 0.05 mg/L

Respectfully Submitted,

Pat Brueckner
Chemist

FIGURE V-2 B

PATCHEM LABORATORIES

2205 First St. #108 • Simi Valley, CA 93065 • (805) 581-9006

Customer: Omega Recovery Services
12504 E. Whittier Blvd.
Whittier, CA 90602

Attention: Mr. Greg McKim

Sample Date: 10-1-90

Report Date: 10-23-90

Sample I.D.: 9010-4003 (Page 3 of 3)

Subject: Colortech Graphic Inc. Sample - TCLP

Sample Location: 315 South Flower Street

Method: Sample was analyzed per EPA *Test Methods for Evaluating Solid Waste, Physical/Chemical Method* (SW-846).

Results:

PARAMETER	ANALYSIS
Color	Dark Grey
Physical State	Liquid
Specific Gravity	0.920 g/ml
pH	7.6 units
Flash Point	> 70 deg. C
% Water	41 %
BTU	8560 BTU/lb
Ash	9.6 %
Odor	Strong
Melting Point	N/A
Boiling Point	62 deg. C
Sulfur	0.2 %
Suspended Solids	85 mg/L
% Cyanide	0.005 %

Respectfully Submitted,

Pat Brueckner
Chemist

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 16-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

MINIMUM AVERAGE HEATING VALUE: = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	HHV Btu/gal	SPEC GRAV (RHO):	VOL. FRAC Ai	GALLONS PER 100,000 GAL	Ai*(HHV)
METHYLENE CHLORIDE	2,291	25,251	1.320	0	0.00	0
ACETONE	13,295	87,922	0.732	0.05	5,000.00	4,396
METHYL-ETHYL KETONE	14,620	98,272	0.805	0.023	2,300.00	2,260
1,1,1 TRICHLOROETHANE	2,969	33,195	1.339	0	0.00	0
1-BUTANOL	15,844	107,134	0.810	0	0.00	0
HEXANE	20,675	113,940	0.660	0	0.00	0
TETRACHLOROETHENE	1,641	22,239	1.623	0	0.00	0
TOLUENE	18,441	133,965	0.870	0	0.00	0
OIL #2 AND #3	19,000	142,785	0.900	0	0.00	0
ETHANOL	12,770	84,131	0.789	0.25	25,000.00	21,033
ISOPROPANOL	14,260	93,590	0.786	0.027	2,700.00	2,527
ETHYL ACETATE	10,934	82,620	0.900	0.35	35,000.00	28,917
ISOBUTYL ACETATE	12,653	92,574	0.860	0.2	20,000.00	18,595
WATER	0	0	1.000	0.1	10,000.00	0
MINERAL SPIRITS	19,840	132,531	0.600	0	0.00	0
KEROSENE	19,840	132,531	0.600	0	0.00	0
AVERAGE HHV (BTU/GAL) =		77,728		1	100,000	77,728

AVERAGE HHV = 77,728 Btu/gal

FIGURE V-2 C

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 18-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

MINIMUM AVERAGE HEATING VALUE: = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	HHV Btu/gal	SPEC GRAV (RHO) i	VOL. FRAC Ai	GALLONS PER 100,000 GALS	Ai*(HHV) i
METHYLENE CHLORIDE	2,231	25,251	1.320	0	0.00	0
ACETONE	13,295	87,922	0.792	0.1	10,000.00	8,792
METHYL-ETHYL KETONE	14,620	98,272	0.805	0	0.00	0
1,1,1 TRICHLOROETHANE	2,969	33,195	1.339	0	0.00	0
1-BUTANOL	15,844	107,134	0.810	0	0.00	0
HEXANE	20,675	113,940	0.660	0	0.00	0
TETRACHLOROETHENE	1,641	22,239	1.623	0	0.00	0
TOLUENE	18,441	133,965	0.870	0	0.00	0
OIL #2 AND #3	19,000	142,785	0.900	0	0.00	0
ETHANOL	12,770	84,131	0.789	0.25	25,000.00	21,033
ISOPROPANOL	14,260	93,590	0.786	0	0.00	0
ETHYL ACETATE	10,934	82,620	0.900	0.35	35,000.00	28,917
ISOBUTYL ACETATE	12,653	92,974	0.860	0.2	20,000.00	18,595
WATER	0	0	1.000	0.1	10,000.00	0
MINERAL SPIRITS	19,840	132,531	0.800	0	0.00	0
KEROSENE	19,840	132,531	0.800	0	0.00	0
AVERAGE HHV (BTU/GAL) =		77,337		1	100,000	77,337

AVERAGE HHV = 77,337 Btu/gal

FIGURE V-2 D

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 18-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

COMPONENT	HHV Btu/lbm.	HHV Btu/gal	SPEC GRAV (RHO)i	VOL. FRAC Ai	GALLONS PER 100,000 GALS	Ai*(HHV)i
METHYLENE CHLORIDE	2,291	25,251	1.320	0	0.00	0
ACETONE	13,295	87,922	0.792	0	0.00	0
METHYL-ETHYL KETONE	14,620	98,272	0.805	0	0.00	0
1,1,1 TRICHLOROETHANE	2,969	33,195	1.339	0	0.00	0
1-BUTANOL	15,644	107,134	0.810	0	0.00	0
HEXANE	20,675	113,940	0.660	0	0.00	0
TETRACHLOROETHENE	1,641	22,239	1.623	0	0.00	0
TOLUENE	18,441	133,965	0.870	0	0.00	0
OIL #2 AND #3	19,000	142,785	0.900	0	0.00	0
ETHANOL	12,770	84,131	0.789	0.5	50,000.00	42,065
ISOPROPANOL	14,260	93,590	0.706	0	0.00	0
ETHYL ACETATE	10,934	82,620	0.900	0.4	40,000.00	33,048
ISOBUTYL ACETATE	12,653	92,974	0.880	0	0.00	0
WATER	0	0	1.000	0.1	10,000.00	0
MINERAL SPIRITS	19,640	132,531	0.800	0	0.00	0
KEROSENE	19,640	132,531	0.800	0	0.00	0
AVERAGE HHV (BTU/GAL) =		75,113		1	100,000	75,113

AVERAGE HHV = 75,113 Btu/gal

FIGURE V-2 E

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 18-Nov-87

COMPONENT	HHV Btu/lbm.	HHV Btu/gal	SPEC GRAV (RHO) i	VOL. FRAC Ai	GALLONS PER 100,000 GALS	Ai*(HHV)i
METHYLENE CHLORIDE	2,291	25,251	1.320	0	0.00	0
ACETONE	13,295	87,922	0.792	0	0.00	0
METHYL-ETHYL KETONE	14,620	98,272	0.805	0	0.00	0
1,1,1 TRICHLORDETHANE	2,969	33,195	1.339	0	0.00	0
1-BUTANOL	15,844	107,134	0.810	0	0.00	0
HEXANE	20,675	113,940	0.660	0	0.00	0
TETRACHLOROETHENE	1,641	22,239	1.623	0	0.00	0
TOLUENE	18,441	133,965	0.870	0	0.00	0
OIL #2 AND #3	19,000	142,785	0.900	0	0.00	0
ETHANOL	12,770	84,131	0.789	0.5	50,000.00	42,065
ISOPROPANOL	14,260	93,590	0.786	0	0.00	0
ETHYL ACETATE	10,994	82,620	0.900	0.4	40,000.00	33,048
ISOBUTYL ACETATE	12,653	92,374	0.880	0	0.00	0
WATER	0	0	1.000	0.1	10,000.00	0
MINERAL SPIRITS	19,840	132,531	0.800	0	0.00	0
KEROSENE	19,840	132,531	0.800	0	0.00	0
AVERAGE HHV (BTU/GAL) =		75,113		1	100,000	75,113

AVERAGE HHV = 75,113 Btu/gal

FIGURE V-2 F

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 18-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.
OBJECTIVES:

MINIMUM AVERAGE HEATING VALUE: = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	SPEC GRAV (RHO)	MASS FRAC Ai	GALLONS PER 100,000 GAL	Ai*(HHV)	Ai/(RHO)
METHYLENE CHLORIDE	2,291	1.320	0	0.00	0	0.000
ACETONE	13,295	0.792	0.15625	18,303.04	2,077	0.197
METHYL-ETHYL KETONE	14,620	0.805	0.046875	5,402.24	685	0.058
1,1,1 TRICHLOROETHANE	2,969	1.339	0.125	8,660.80	371	0.093
1-BUTANOL	15,644	0.810	0.003125	358.01	50	0.004
HEXANE	20,675	0.660	0.007812	1,038.18	162	0.012
TETRACHLOROETHENE	1,641	1.623	0.078125	4,465.81	128	0.048
TOLUENE	18,441	0.870	0.03125	3,332.42	576	0.036
OIL #2 AND #3	19,000	0.900	0.28125	28,992.01	5,344	0.313
ETHANOL	12,770	0.789	0.0625	7,349.05	798	0.079
ISOPROPANOL	14,260	0.786	0.03125	3,688.55	446	0.040
ETHYL ACETATE	10,994	0.900	0.03125	3,221.33	344	0.035
ISOBUTYL ACETATE	12,653	0.880	0.015625	1,647.27	198	0.018
WATER	0	1.000	0.067187	6,233.28	0	0.067
MINERAL SPIRITS	19,840	0.800	0.03125	3,624.00	620	0.039
KEROSENE	19,840	0.800	0.03125	3,624.00	620	0.039
			(SUM=64/64)			
AVERAGE HHV AND SPEC GRAV =	12,418	0.928	1	100,000	12,418	1.078

HHV(BTU/GAL)= 96,199 Btu/gal
AVERAGE DENSITY= 7.75 lbm/gal

FIGURE V-2 G

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 18-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

MINIMUM AVERAGE HEATING VALUE = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	SPEC GRAV (RHO) i	MASS FRAC Ai	GALLONS PER 100,000 GALS	Ai*(HHV) i	Ai/(RHO) i
METHYLENE CHLORIDE	2,291	1.320	0	0.00	0	0.000
ACETONE	13,295	0.792	0.05	5,446.80	665	0.063
METHYL-ETHYL KETONE	14,620	0.805	0.023	2,465.06	336	0.029
1,1,1 TRICHLOROETHANE	2,969	1.339	0	0.00	0	0.000
1-BUTANOL	15,844	0.810	0.001	106.54	16	0.001
HEXANE	20,675	0.660	0	0.00	0	0.000
TETRACHLOROETHENE	1,641	1.623	0	0.00	0	0.000
TOLUENE	18,441	0.870	0	0.00	0	0.000
OIL #2 AND #3	19,000	0.900	0	0.00	0	0.000
ETHANOL	12,770	0.789	0.246	26,900.13	3,141	0.312
ISOPROPANOL	14,260	0.786	0.03	3,293.02	428	0.038
ETHYL ACETATE	10,994	0.900	0.35	33,552.28	3,848	0.389
ISOBUTYL ACETATE	12,653	0.880	0.2	19,608.46	2,531	0.227
WATER	0	1.000	0.1	8,627.72	0	0.100
MINERAL SPIRITS	19,840	0.800	0	0.00	0	0.000
KEROSENE	19,840	0.800	0	0.00	0	0.000
AVERAGE HHV AND SPEC GRAV =	10,965	0.863	1	100,000	10,965	1.159

HHV(BTU/GAL)= 78,990 Btu/gal
AVERAGE DENSITY= 7.20 lbm/gal

FIGURE V-2 H

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 16-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

MINIMUM AVERAGE HEATING VALUE: = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	SPEC GRAV (RHO)	MASS FRAC Ai	GALLONS PER 100,000 GAL	Ai*(HHV)	Ai/(RHO)
METHYLENE CHLORIDE	2,291	1.320	0	0.00	0	0.000
ACETONE	13,235	0.792	0.05	5,614.72	665	0.063
METHYL-ETHYL KETONE	14,620	0.805	0.025	2,762.02	366	0.031
1,1,1 TRICHLOROETHANE	2,969	1.339	0.01	664.21	30	0.007
1-BUTANOL	15,844	0.810	0	0.00	0	0.000
HEXANE	20,675	0.660	0	0.00	0	0.000
TETRACHLOROETHENE	1,641	1.623	0	0.00	0	0.000
TOLUENE	18,441	0.870	0	0.00	0	0.000
OIL #2 AND #3	19,000	0.900	0	0.00	0	0.000
ETHANOL	12,770	0.789	0.13	14,653.78	1,660	0.165
ISOPROPANOL	14,260	0.786	0.025	2,828.79	357	0.032
ETHYL ACETATE	10,994	0.900	0.35	34,586.68	3,848	0.389
ISOBUTYL ACETATE	12,653	0.880	0.2	20,212.39	2,531	0.227
WATER	0	1.000	0.21	16,676.81	0	0.210
MINERAL SPIRITS	19,840	0.800	0	0.00	0	0.000
KEROSENE	19,840	0.800	0	0.00	0	0.000
AVERAGE HHV AND SPEC GRAV =	9,455	0.883	1	100,000	9,495	1.124

HHV(BTU/GAL)= 70,216
AVERAGE DENSITY= 7.43 lbm/gal.

FIGURE V-2 I

Example Fuel Blend

COMPOSITION OF OMEGA WASTE STREAM 16-Nov-87

CREATING A FUEL FOR OMEGA CHEMICALS COFIRING.

MINIMUM AVERAGE HEATING VALUE: = 8,000 BTU/LBM.

COMPONENT	HHV Btu/lbm.	SPEC GRAV (RHO) i	MASS FRAC Ai	GALLONS PER 100,000 GAL	Ai*(HHV) i	Ai/(RHO) i
METHYLENE CHLORIDE	2,291	1.320	0	0.00	0	0.000
ACETONE	13,295	0.792	0.05	5,602.11	665	0.063
METHYL-ETHYL KETONE	14,620	0.805	0.025	2,755.82	366	0.031
1,1,1 TRICHLOROETHANE	2,963	1.339	0	0.00	0	0.000
1-BUTANOL	15,844	0.810	0	0.00	0	0.000
HEXANE	20,675	0.660	0	0.00	0	0.000
TETRACHLOROETHENE	1,641	1.623	0	0.00	0	0.000
TOLUENE	18,441	0.870	0	0.00	0	0.000
OIL #2 AND #3	19,000	0.900	0	0.00	0	0.000
ETHANOL	12,770	0.789	0.13	14,620.86	1,680	0.165
ISOPROPANOL	14,260	0.786	0.025	2,822.44	357	0.032
ETHYL ACETATE	10,994	0.900	0.35	34,508.98	3,848	0.389
ISOBUTYL ACETATE	12,653	0.860	0.2	20,167.58	2,531	0.227
WATER	0	1.000	0.22	19,522.22	0	0.220
MINERAL SPIRITS	19,840	0.800	0	0.00	0	0.000
KEROSENE	19,840	0.800	0	0.00	0	0.000
AVERAGE HHV AND SPEC GRAV =	3,425	0.887	1	100,000	3,425	1.127

HHV(BTU/GAL)= 63,838
AVERAGE DENSITY= 7.41 lbm/gal.

FIGURE V-2 J

FIGURE V-2 K

Waste Fuel Constituents

Component
Methylene chloride
Acetone
Methyl Ethyl Ketone
1,1,1 Trichloroethane
1-Butanol
Hexane
Tetrachloroethene
Toluene
Oil no. 2 and 3
Ethanol
Isopropanol
Ethyl acetate
Isobutyl acetate
Kerosene
Mineral spirits
Paint pigments (50 percent ash)
Combustible solids (50 percent ash)
Resins(20 percent ash) (polymeric isocynate)
Soil (100 percent ash)
Water

Metal analysis of a still bottoms mixture of the above constituents have shown concentrations in the range below. The metals concentration in the actual fuel are over 2 orders of magnitude less and are also presented.

Heavy metals	Still bottoms ppm	Fuel concentration ppm
Lead	0.3	<0.003
Silver	0.03	<0.0003
Chromium	0.09	<0.0001
Mercury	0.0002	<0.0002
Cadmium	0.21	<0.0002
Barium	0.14	<0.0014
Arsenic	0.006	<0.005
Selenium	0.0004	<0.0004

FIGURE V-2 L

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator Omega Recovery Services
Address 12504 East Whittier Blvd.
Whittier, CA 90602
Contact/Phone Frank Ford (213) 698-0991

Customer Code OCW
Source Waste solvent collection
Date July 1, 1987
Volume 54,000 gal/yr
EPA Waste Code(s) D001, F002 F003, F005

QUALIFICATION ANALYSIS FOR LOS ROBLES

Organics

acetone	20.2%	Heat Content	14,000	Btus/lb
isopropanol	31.8%	Viscosity	13	cp
methylene chloride	0.6%	Solids	3	% volume
methyl ethyl ketone	3.9%	Sulfur	0.2	% wt.
1,1,1-trichloroethane	4.7%	Nitrogen	<0.1	% wt.
n-butanol	0.1%	Halogens	4.3	% wt. as Cl
trichloroethylene	0.3%	Aqueous Extraction	6	pH
MIBK	1.2%	Water (separated phase)	0	% volume
toluene	2.3%	Ash	<1	% wt.
butyl acetate	4.0%	Specific Gravity	0.88	gr/ml
ethyl benzene	1.5%	PCBs	<50	ppm
xylene	7.7%			
C_9 - C_{16} alkyl benzenes	2.5%			
C_5 - C_{22} aliphatics	19.2%			
	%			
	%			
	%			
benzene	<0.1%			

Metals

Pb	200	ppm	Ba	<100	ppm
Zn	100	ppm	Ti	<100	ppm
Cr	<100	ppm	Fe	200	ppm
Cd	<100	ppm	V	<100	ppm
As	<200	ppm	Se	<200	ppm
		ppm			ppm

Note: organic composition presented as area percent of FID/GC plot.

Site Manager comments Based on analysis at Fredonia May 8, 1987, (Omega Chemical).

Technical Service Director approval [signature] 8/3/87

Technical Service Director comments

END